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SOUTH AFRICAN MINING JOURNAL AND ENGINEERING RECORD

The Only Weekly Mining Paper in the Union and Rhodesia.

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Engineering

# THE South African MINING JOURNAL

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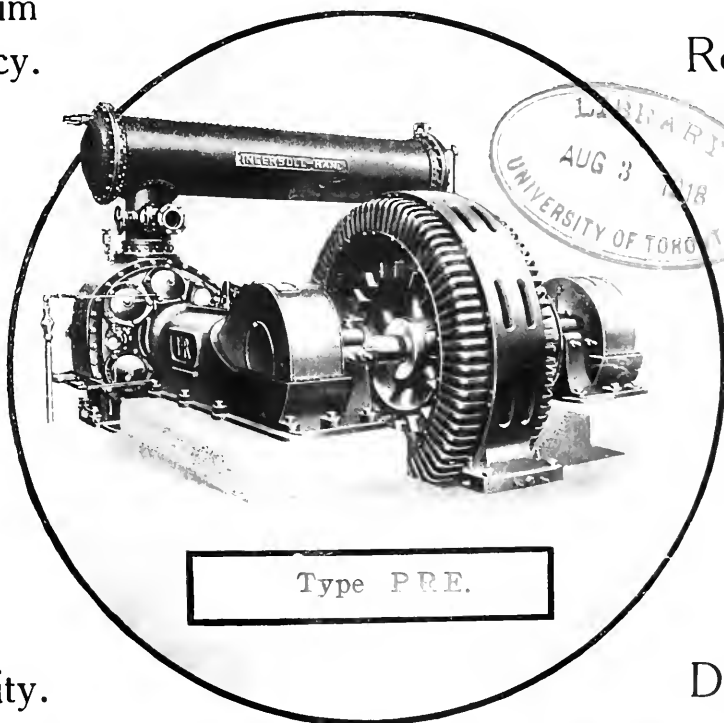
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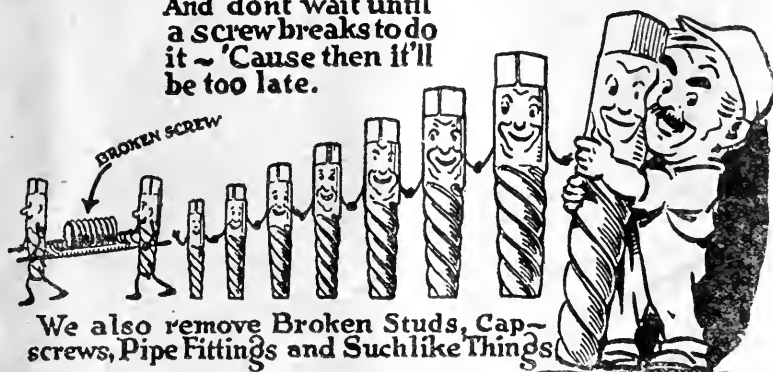
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## Notes and News.

The proceedings at the Wit. Deep annual general meeting on Thursday afternoon were so protracted, and the results so unsatisfactory, that it is impossible to review them fully in this issue. The meeting has been adjourned until Tuesday, and it will be possible therefore to deal in our next issue with the attempt of a relatively small body of disgruntled local shareholders to take advantage of the delay in the mails, bringing proxies from overseas shareholders.

The report of the directors of the Robinson for the quarter ending 31st March, 1918, states that flooding of the underground workings took place during the heavy rains early in the year, and it was not until near the end of the quarter that normal working was resumed. The native labour has now materially improved. The 28th ordinary general meeting of shareholders will be held in the Board Room, The Corner House, Johannesburg, on Friday, 21st June, 1918, at 2.30 p.m.

The following list of minerals, metals, and rocks of economic value found in the Union of South Africa, compiled by the Director, **Minerals, etc., Found in the Union.** Geological Survey, in response to an inquiry, is given in the *Union Journal of Industries*, viz.:—Apatite and phosphates (generally), asbestos, antimony, coal, cobalt, copper, chromite, corundum, flint, fire-clay, gypsum, granite, graphite, iron pyrite, iron oxide, kaolin, kieselguhr, lead, lime and limestone, magnesite, marble, mercury, mica, manganese, nickel, platinum, potclay, scheelite, slate, soda (crude), sodium nitrate, talc and steatite, tin, verdite, zinc. Information respecting the occurrence of these minerals can be obtained on application to the Department of Mines and Industries.

The report of the Ferreira Deep directors for the quarter ending 31st March, 1918, shows that the development work was as follows: Total footage, 627 feet; total footage sampled on reef, 355 feet. The payable reef disclosures were as follows: Main Reef Leader, 200 feet, width 25 inches, assay value 15 dwts.; South Reef, 61 feet, width 7 inches, assay value 120 dwts. Interruptions to hoisting during January, owing to falls of hanging in No. 1 incline, detrimentally affected the results for the quarter. Normal hoisting has continued through February and March, with improved results. The labour supply is still poor. The abnormal rains did not seriously interfere with the output, but added to the costs appreciably. A dividend (No. 31) of 7½ per cent. and a bonus of 3½ per cent. were declared on 19th March, 1918, for the period ending 31st March, 1918, and will be payable from the head and London offices to all shareholders registered on the company's books at 31st March, 1918. Holders of share warrants will receive payment of coupon No. 31, attached thereto, on presentation at the London office, or at the Crédit Mobilier Français, 30 and 32, Rue Taitbout, Paris.

The Zaaipplaats directors' report for the quarter ended 30th April, 1918, shows that the mill ran on 75 days during the quarter, crushing 3,223 short tons, the duty per stamp being 9.0 tons per 24 hours. The output for the quarter amounted to 146 long tons of concentrate, assaying approximately 71.5 per cent. metallic tin. The results of working show an estimated profit of £20,989 3s. 10d., excluding directors' fees and Government taxes, made up as follows: Estimated profit for the three months' operations, £20,876 15s. 4d.; add adjustments of estimated values of previous shipments of concentrates, £112 8s. 6d.; profit declared for the quarter, £20,989 8s. 10d. 77.5 long tons of refined tin, assaying

99.5 per cent. metallic tin, were produced by the smelter during the quarter. The expenditure on capital account amounted to £189 ls. 1d., as follows: Machinery and plant, £189 ls. 1d. Development has chiefly centred in No. 13 section, where results have been very satisfactory. The main body has now split into two portions. The western portion appears to be merely a branch and has deteriorated in value. The other or eastern portion is considered to be the main body and continues to carry high grade ore over a large area. This body has not changed its angle of dip, which has continued to be steep for some time. The connecting drive between Nos. 6 and 13 sections advanced 282 feet during the quarter and is now nearing completion. A small unknown pipe was struck in this drive, but stoping has so far not disclosed ore of payable grade. Work is proceeding in No. 5 section as usual, but no developments of importance have taken place during the quarter. During the quarter 3,718 tons of ore were mined and disposed of as follows: Waste sorted, 495 short tons; sent to mill, 3,223 short tons; total, 3,718 short tons. The native labour supply improved during the quarter. The supply is still, however, short of requirements. 14.29 inches of rain fell during the quarter.

\* \* \* \*

The directors of the Consolidated Main Reef Mines and Estate, Ltd., announce the following results for the quarter ended March 31: The payable reef disclosures were as follows: Main Reef Leader, 1,220 feet, width 13 inches, assay value 32.7 dwts.; South Reef, 75 feet, width 11 inches, assay value 20.4 dwts. Results for the quarter were adversely affected by (1) the greatly increased quantity of water entering the workings due to abnormal rainfall, and (2) the breaking of the drum shaft of the rock hoist at the No. 3 shaft on March 21. The accident to the hoist necessitated the entire cessation of mining and development operations in the No. 3 deep level section and the distribution of the labour force to the other sections, in which the grade of ore is not so good. It is anticipated that repairs to the hoist will be completed in June. In the meantime it is hoped to be able to maintain full mill tonnage, but the yield will be under normal. The assets and liabilities of the Main Reef West, Ltd. (in liquidation), as at October 1, 1917, have been incorporated in the accounts of this company. The transfer of the property and assets of the Main Reef West, Ltd. (in liquidation), has not yet been completed. Due notice, however, will be given to debenture and share holders to surrender their debenture bonds and share certificates for conversion into new shares of this company immediately such transfer has been effected.

\* \* \* \*

The President of the Chamber of Mines last week presented the Chamber's medal and gold watch to J. van Walbeek, and the gold watch to W. Mayne, for bravery last June. Van Walbeek was shift boss at Roodepoort United Mine. He was examining the hanging of a certain stope when he detected the smell of burning gelatine, a packet of which, it was subsequently ascertained, had been accidentally set on fire by a miner who had charged up at the bottom of the stope. The stope was forty feet long, and the dip was very steep in places. Van Walbeek immediately went down. The miner whose gelatine had caught fire was able to get away and to remove his boys, but Van Walbeek found another miner named Zweigelaar working with his boys in a vertical portion of the winze, in which the full effect of the flames was felt. They hurried up the stope. It was a climb of 400 feet. Zweigelaar and many of the boys were overcome, and Van Walbeek, never giving in, though suffering seriously, practically carried Zweigelaar over a considerable portion of a steep incline, bringing him, with all the natives, to the surface. Zweigelaar died subsequently from the effects of the fumes, but Van Walbeek's action was undoubtedly the means of saving many natives' lives. In Mayne's case, a timberman named Biay, while working on the Randfontein Central in October

last, caught his boot in a rail when turning after preparing a charge, which was being lighted. He pitched head first into a hole in the steep workings. Mayne caught his foot as he was sliding down and held on. He then plucked the lighted fuse from the charge, and threw it back in the drive. Help came, and Bray was pulled up. The President, in making the presentations, said while the great sacrifices made every day in the war impressed them deeply, they were also impressed by brave acts of men on the mines, who, in the cold light of duty, and without the inspiration of that spirit of patriotism which actuated men at the front, performed acts of the highest altruism and of bravery. The war, proceeded Mr. Wallers, had shown many things, but he thought one thing was perfectly clear, and that was that it was necessary that they should not set class against class, but that they should all stand by each other. That principle must be applied to industrial life, for they could make no progress unless each individual had regard to the other person's point of view.

\* \* \* \*

In the May number of the *Journal of Industries*, which is now on the market, Dr. P. A. Wagner deals exhaustively with corundum (this being the fifth article of his useful series on "Certain Minerals used in the Arts and Industries"). Discussing first the various qualities of the mineral, the author proceeds to review the position and prospects of the corundum industry in Canada and in other parts of the world. The uses of corundum proper and emery (a rock composed of impure corundum and other minerals), the composition of artificial abrasives and their value in comparison with natural abrasives, and the valuation and prices of corundum, are discussed in turn. The author then deals with the corundum deposits of South Africa, and the position and prospects of the South African corundum industry, from which we learn that the industry in this country is rapidly expanding, the mineral being shipped mainly to the United Kingdom. In conclusion, the author refers briefly to the practicability of establishing in South Africa an industry in manufactured corundum goods, instead of exporting the ore as is now done. "The position appears to be," he says, "that, while the manufacture of the various articles above referred to is undoubtedly a highly specialised art, it does not call for particularly elaborate or expensive plant and machinery, and if some large English or American firm of abrasive manufacturers could be induced to open a local branch factory, the writer sees no reason why this small beginning should not eventually lead to South Africa becoming one of the leading producers of manufactured corundum goods." Extracts from the article are printed elsewhere in this issue. "The Manufacture of Ceramic Wares in the Union" is the subject of an article by Mr. John Adams, headmaster of the Durban Technical College Art School. The main types of pottery are classified and the principles of manufacture briefly described. Dealing with the position and prospects of the industry in South Africa, the author states that, apart from common bricks, the principal items now being turned out are roofing tiles, fire-clay goods, and stoneware, although a large variety of other articles is also being manufactured at certain pottery works in the Transvaal. Mr. Adams says that the materials for pottery at present found in the Union are china-clay, ball-clay, quartz, gypsum (for plaster of paris), fire-clay, and various red and other common clays and shales, and adds that, on the whole, the conditions are favourable to the production of pottery in South Africa. He says, however, that "too much stress cannot be laid on the importance of a thorough survey of the geological possibilities of the Union in providing raw materials for such industries as pottery manufacture. The resources of the country in this respect are practically unknown, and the progress of the potters will be hampered until the resources of supply of certain essential materials are discovered." The manufacturers, Mr. Adams states, however, are confident that, with reasonable support, there is a balance in favour of the successful development of South African ceramics in all branches, especially if proved raw material for the better class pro-

ducts could enter the Union free of duty. Other articles deal with the question of the production of potash and iodine that the Scientific and Technical Committee is taking up the question of the utilization of the seaweed resources of our own coasts), the wattle bark industry, cotton and cotton-seed products, Customs tariff changes, and the Union's trade in 1917. There is a good instalment of "Notes" on a large number of subjects, whilst the tables at the end of the *Journal* include the usual particulars of the output of our mines, and the latest London market prices (as advised by cable). The *Journal* is published on behalf of the Department of Industries, by the Government Printer, Pretoria, from whom or from any railway bookstall copies may be obtained.

\* \* \* \*

In a memorandum on the use of rock drills with particular reference to drills of the "Jack Hammer" type, Messrs. Roberts and D. Wilkinson, and the Industry. Technical Advisers of the Chamber of

Mines, write: "The question of obtaining a rock drill which can be successfully used in substitution for hand labour is one that has occupied the attention of the industry almost since its commencement. In wide stopes with sound walls the problem was not particularly difficult, and the large 3½ inch reciprocating drills which had been used in other countries were brought into use with a considerable measure of success in such stopes, but, although many improvements are continually being made drills of this type have not been found suitable for use in narrow stopes and in places where the walls are 'tender.' Consequently, it has been, and is still, the constant endeavour of the industry and the various rock drill manufacturers alike to find a drill which would be suitable in such circumstances. In 1908 a competition was organised by the Transvaal Government and the Chamber, and substantial prizes were offered for the best drill of a type which would be suitable for stoping work under the working conditions obtaining on the Witwatersrand. Twenty-three manufacturers from various parts of the world entered for the competition which extended over a considerable period and attracted general attention. The competition, however, did not result in the discovery of a drill which fully met the requirements of the industry, particularly in regard to narrow and 'tender' stopes." Simultaneously, it was endeavoured to obtain a drill which would substitute hand labour on 'footwall' reclamation, and where down holes are drilled in a more or less vertical direction; and for this purpose drills of a type which are now known as 'Jack Hammers' were gradually introduced and improved. These drills, with and without certain adaptations are also used on some of the mines for stoping purposes, particularly in times of scarcity of native labour such as is now being experienced, but they are not suitable for the economical replacement of native labour except under special conditions. The results obtained with drills of this type in stoping work in regard both to efficiency and cost vary materially, and in this respect they are not different from many other drills used for these purposes. Similarly, although they are conspicuously successful under certain conditions, they fail under others. Although the improvements which have recently been made in these drills are not of a nature which can immediately and fundamentally alter the present methods of stoping or, to any material extent, solve the native labour problem, it is probable that the use of this type can gradually be increased, and for this reason a supply of them should be assured. Apart from the considerations referred to above, it must be remembered that all the machine drills at present in use, including jack hammers, result in a consumption of a larger quantity of explosives per ton broken than is the case with hand labour, and for this reason, in view of the shortage of glycerine, there is a distinct limit to the extent to which they can be used in replacing hand labour."

## TOPICS OF THE WEEK.

### MINERS' PHTHISIS LEGISLATION.

SEVERAL important facts regarding miners' phthisis emerged from the debate on the subject in the recent session of the Union Assembly. The Minister of Mines in moving the second reading of the Miners' Phthisis Act Further Amendment Bill, explained that it had become necessary owing to several anomalies which had cropped up. They had now four Acts on the Statute Book dealing with miners' phthisis. Certain anomalies, of course, could not be rectified owing to a number of men having died and owing to other circumstances. There were, however, some matters which could be remedied. The Miners' Phthisis Board had represented the necessity of amalgamating all existing miners' phthisis laws rather than place a further law on the Statute Book, and the Select Committee recommended that during the recess a Commission should go into the whole matter and draft a consolidating Bill. In the meanwhile the Bill before the House provided to extend the period during which compensation would be paid in one stage for another twelve months. In regard to the pay to dependents, it had been felt that the amount set aside for them was altogether inadequate, and it was now provided to add £40,000 out of the insurance fund to the dependents. The position of this insurance fund was declared by the actuaries to be that if all its liabilities present and contingent were paid there would be a balance of £375,000, so that the fund was in a very sound condition and could be drawn upon. Mr. Nathan, in welcoming the Bill, expressed the hope that the Commission would be appointed without delay, and that the consolidating Bill might be in the hands of members early next session. Mr. Sampson, while declaring that he was not altogether satisfied with the measure, said he would raise no objection, seeing that it was proposed to introduce a consolidating Bill next year. He drew attention to the necessity for increasing the dependents fund, and he hoped the Bill would not be opposed. The Bill was read a second time, and sent to the Committee stage. In its report on the working of the Miners' Phthisis Acts the Select Committee states that it sympathises with the view most strongly urged by the Miners' Phthisis Board that, if it be decided to amend the existing Statutes, the change should take the form of consolidating all the Acts. Regarding the contribution of employees to the insurance funds, the Committee reports as follows: "The white employees on the scheduled mines contribute at present 2½ per cent. of the amount paid to them as wages to the insurance fund. Last year's Select Committee recommended that this contribution should be terminated so soon as the financial position of the fund justified it. The Actuary in his report to the Board for last year states that the financial position of this fund seems quite satisfactory, and that it would appear as if the miners' contributions might be dispensed with at a comparatively early date, but thinks that it would be advisable to defer the full consideration of this matter until the completion of the present financial year, as it is difficult at present to estimate at all accurately the total liability which may be expected on the passing of the 1917 Act. The Committee agrees with the Actuary's recommendations, and expresses the desire that the recommendations of last year's Select Committee should be given effect to as early a date as possible." In conclusion, the report says that the Committee has had the benefit of hearing the evidence of the Government Mining Engineer (Mr. R. N. Kotzé) on the subject of dust-sampling in the mines. The Committee is pleased, it is remarked, to learn from him that he thinks that the disease is on the decrease in the mines, and that he does not think it inevitable if a man takes reasonable care of himself. He also looks forward to the time when the disease will be negligible, and states that a man who comes into a mine now should never get miners' phthisis. It is safe to conclude from all this authoritative testimony that the whole question never looked so satisfactory as it does to-day.



## THE CORUNDUM DEPOSITS OF SOUTH AFRICA.

[By DR. P. A. WAGNER.]\*

CORUNDUM in one or the other of its varieties has a very wide distribution in South Africa. Gem corundum (ruby and sapphire), in rolled grains, is found in the diamondiferous gravels of the Seta Mine in the Limpopo Valley and on the Somabula diamond fields in Southern Rhodesia. Occasional crystals of impure ruby and sapphire are also met with in the Zoutpansberg and Leydsdorp fields, and small rubies of rich, red colour are from time to time found in the concentrate obtained on washing the blue ground of the Koffyfontein diamond mine. None of these occurrences are of economic importance as sources of gem corundum, though the Somabula gravels have yielded some rather fine sapphires. At Malelane, to the south-east of Leydsdorp, in the Transvaal, large masses of finely granular ruby rock, to be presently referred to, are enclosed in the older granite and gneiss. The occurrences are of great scientific interest, but the rubies, unfortunately, are too small to make their recovery worth while. Typical emery has not hitherto been discovered in South Africa. Of corundum proper, on the other hand, the sub-continent has enormous resources, and, as already stated, ranks at the present time as the leading producer. The South African corundum output for 1917 amounted to 2,628,866 tons, of a declared value of £13,038. What the corundum actually realized in England, where it was shipped, is not known, but cannot have been far short of £45,000. At the present time production is at the rate of about 400 tons per month.† Much the greater part of the South African output comes from the Zoutpansberg and Pietersburg districts of the Transvaal, which include two distinct corundum-producing areas, known respectively as the Zoutpansberg and Leydsdorp fields. The Zoutpansberg fields embrace a considerable extent of country in the central and south-western portions of the Zoutpansberg district and the adjoining portion of the Pietersburg district. The Leydsdorp fields are situated in the low country to the south-east of Leydsdorp.

**The Zoutpansberg Fields.**—The Zoutpansberg fields constitute by far the largest and most important corundum-bearing area in the world. The precise limits of the fields have not as yet been ascertained as fresh discoveries are continually adding to their already enormous extent. All that can be said at the present time is that eluvial corundum, which occurs in more or less isolated patches and streaks, has been found as far north as the northern slopes of the Zoutpansberg range fully twenty miles north of Louis Trichardt, as far to the north-west as the south-western slopes of the Blaauwbergen, about fifty miles to the west of Louis Trichardt, as far to the north-east as the western boundary of Knopneuzen Location, thirty-five miles east of Louis Trichardt, and as far to the south as Maclean and Schmidts Drift, twenty-five miles east of Pietersburg, in the southern portion of the Pietersburg district. The greater part of the corundum recovered is in the form of loose crystals and fragments of crystals, and a much smaller proportion is boulder or rock corundum, in which the corundum is associated with variable amounts of other minerals. It will be convenient to deal separately with these two types of corundum.

### THE CRYSTAL CORUNDUM.

The crystal corundum is picked up on the surface and recovered by sifting and washing from the thin soil and sub-soil of the area, having evidently been released by weathering from the underlying rocks. The crystals from different parts of the Zoutpansberg fields exhibit considerable differences in size, habit, colour, and structure, which are so marked that experts can sometimes tell at a glance where a particular consignment comes from. Their size ranges from microscopic dimensions to a length of ten inches and a diameter of five inches. They are frequently pyramidal in habit, being bounded by steep bi-pyramids. Crystals bounded by the unit prism, the basal pinacoid and one or more rhombohedrons, or more rarely simply by the unit prism and basal pinacoid, are, however, very common,

their habit varying from prismatic to tabular. Barrel-shaped and irregularly rounded and corroded crystals are also met with. The crystals occasionally exhibit a zonal structure. They are almost without exception polysynthetically twinned parallel to the faces of the unit rhombohedron, the twinning finding expression in a rhombohedral pseudo cleavage. More rarely they are traversed by broad twin lamellae exhibiting slight differences in colour. A pseudo-cleavage parallel to the basal pinacoid is also nearly always developed, and occasionally a parting parallel to the faces of the unit prism is in evidence. The crystals from the neighbourhood of the Blaauwbergen generally exhibit a peculiar laminated structure parallel to the basal pinacoid. The colour of the corundum varies considerably, and may be bluish green, bluish grey, pale purple, pink, greenish grey, or grey. In some instances the colour of a crystal is not uniform, irregular patches exhibiting slightly different tints blending with one another. More rarely the corundum is zonally coloured. The writer has seen several crystals and fragments of crystals in which a core of pale, purplish colour is surrounded by an outer zone of greenish colour. Corresponding to the differences in colour, there appear to be slight differences in hardness. The normal bluish-grey and bluish-green corundum from the neighbourhood of Bandolierkop, for example, is scratched by purplish corundum from the northern part of the Zoutpansberg fields. The abrasive efficiency of the corundum, as already stated, is of a very high order. The corundum, generally speaking, is very free from inclusions and in consequence of great purity. It is also, considering its manner of occurrence, on the whole, remarkably fresh. Selected specimens assay as high as 97 per cent. of  $Al_2O_3$ . The alumina content of the crystal corundum as shipped in bulk is lower and ranges from 80 to 93 per cent.; the mineral being generally graded according to its purity into "No. 1" and "No. 2" crystals. The following are analyses of representative samples—(a) of No. 1 crystals of medium quality and (b) of No. 2 crystals, also of medium quality:

	(a)	(b)
$Al_2O_3$ ... ..	87.13	80.68
$SiO_2$ ... ..	7.35	10.05
$Fe_2O_3$ ... ..	2.71	2.46
CaO ... ..	.42	1.02
MgO ... ..	.54	1.07
$TiO_2$ ... ..	trace	.01
Alkalies, etc. ... ..	.50	.61
Water and carbon dioxide† ...	1.35	3.20
Total ... ..	100.00	100.00

**The Source of the Crystals.**—In regard to the precise nature of the rocks from which the crystal corundum has been derived little is known, as the greater part of the Zoutpansberg fields is geologically unsurveyed. From the information to hand, however, it is clear that several different types of primary occurrence have contributed to the formation of the eluvial and alluvial deposits. On the farm Palmietfontein No. 374, ten miles north of Bandolierkop, and also in the valley of the Zand River to the south of Mara Station, for example, the source of the crystals has been found to be a coarse-grained, light-coloured diorite or plumbasite-pegmatite,|| consisting essentially of andesine, corundum, and biotite, which occurs in the form of veins and irregular lenticular masses intrusive in the gneiss and schists of the Swaziland system. In other parts of the corundum area the matrix of the crystals, according to T. G. Trevor, is a quartz rock, and in still others it is mica schist.\*\*

† Presumably by difference.

§ A small proportion of the corundum is derived from the beds of water-courses traversing the area.

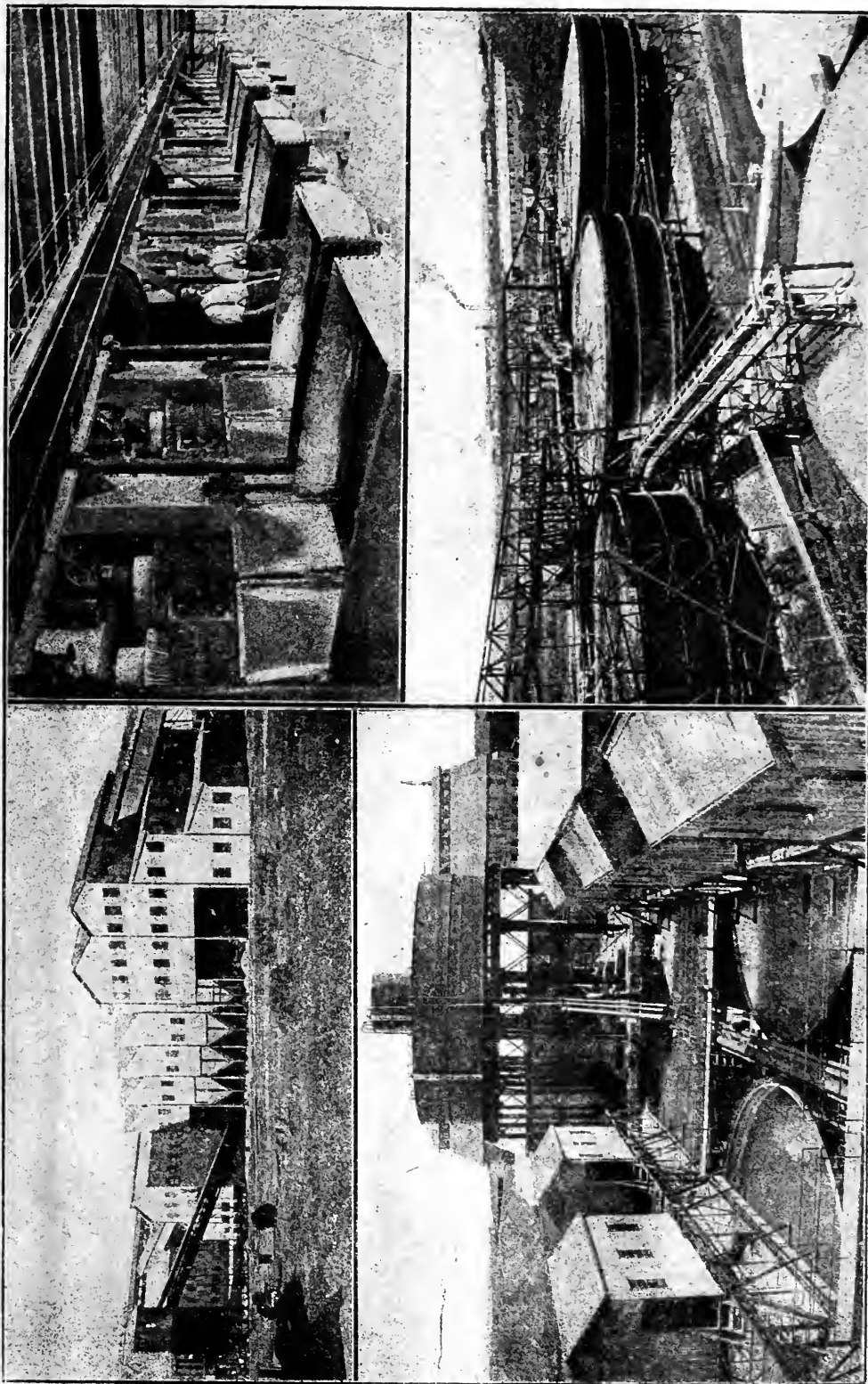
|| A full description of the rock will be found in a recent communication by the writer to the Geological Society of South Africa, entitled "The Corundum of the Zoutpansberg Fields and its Matrix."

\*\* Cf. Trevor, T. G., in "The South African Year Book," shortly to be published.

\* From an article in the Union Journal of Industries.

† The output for March, 1918, amounted to 631,973 tons.

NEW MODDER NEW REDUCTION WORKS.



FOUR VIEWS OF THE NEW PLANT.



## TUNGSTEN ORES IN SOUTHERN RHODESIA.\*-II.

By H. B. MAUFE.

**Lomagundi District.**—A lump of copper-bearing scheelite comes from the Lomagundi District some distance from Sinoia, and constitutes the first record for northern Mashonaland. No details of the occurrence are known.

**Matobo District.**—Scheelite in coarse pinkish brown lumps has been identified in the quartz of the Asherie reef near the Planet Mine on Sauerdale farm, south of Bulawayo. Scheelite is also said to occur in fair quantity in the schistose porphyry of the neighbourhood.

**Ndanga District.**—Wolframite, scheelite and tungstic ochre have been found on the Loupangwan (Neruposo) and neighbouring claims situated one to four miles from the west bank of the Sabi River, and nearly opposite the farm Gumera on the east bank. The wolframite, which appears to be the more abundant ore, occurs in association with copper ores in lodes described as quartz reefs. The country-rock is said to be chlorite schist, but the reefs lie near the edge of a mass of granite which crops out between the claims and the Sabi River.

**Selukwe District.**—Scheelite is said to have been found some ten or twelve miles south-south-west of Selukwe. It might well occur in the pegmatitic dykes found about the edge of the gneissic granite of this district, but no details of the occurrence are known.

**Umtali District.**—(1) On the Duke's Hill claims, in the Odzi Reserve, white scheelite intergrown with a dark green mineral has been detected in a wash which also contains tinstone and tantalite. The scheelite may have been derived from the greisen dykes occurring in the neighbourhood of the wash, but it has not actually been found in them up to the present. (2) Scheelite has been detected in a garnet-epidote actinolite rock from Kenya Hill, near Old Umtali.

**Umsingwane District.**—(1) The largest group of tungsten reefs in the country are to be found in the neighbourhood of Esesxvale Siding on the West Nicholson line. Sixteen distinct reefs are known, and in addition several sheets of rubber (sometimes known as "alluvial") containing tungsten ores. As Short Report No. 1 describes both reefs and rubble, they need not be treated here in any detail. As regards the reefs, it is sufficient to say that with one exception they strike

east and west, and dip north at angles varying between 30° and 50°. They consist of greisen, a rock containing secondary mica formed by the action of mineralising vapours on the alkali felspar of the original rock. At Esesxvale the original rocks from which the greisen reefs have been formed are aplite, porphyry or pegmatite. When the alteration to greisen is not complete, the partly altered rocks are known as greisenised aplite, greisenised porphyry, or greisenised pegmatite. Aplite and porphyry, containing as they do a large proportion of alkali felspar, are changed to a greisen consisting very largely of mica. Such reefs are naturally soft; they do not form conspicuous outcrops, and are consequently easily overlooked. The tungsten ore they contain is fine grained, and not often visible to the naked eye. Lenses of quartz are constantly found in association with the greisen bodies. These may have been deposited at the same time and by the same agency as the secondary mica, or in other instances may be highly quartzose pegmatite dykes, in which the small amount of original felspar has been converted into small streaks and bunches of secondary mica. However that may be, the quartz lenses usually form conspicuous outcrops, and part at least of the tungsten ore in them is often visible and even in large lumps. In addition to the tungsten ores found in the reefs, a number of other minerals have been noticed here and there in bunches and streaks. The most important are fluorasper, tourmaline and topaz, which are well known as indicators of mineralisation, and therefore suggestive of the presence of some valuable mineral, such as wolframite or tinstone. A peculiarity of the reefs at Esesxvale is the presence of galena, usually in small and scattered bunches. It is likely that the gold which occurs in small quantity in some of the reefs is associated with the galena. Active prospecting of several of the Esesxvale reefs is in progress. The concentrate marketed consists of wolframite with an admixture of scheelite, which brings up the tungstic acid content to 73 or 74 per cent. (2) A discovery of scheelite is reported to have been made in the country lying some miles to the north-east of Esesxvale, but no details of the occurrence are available.

**Wankie District.**—A little scheelite has been detected in a quartz vein containing tinstone and tourmaline found near the railway between Dett and Lokosi. In Northern Rhodesia scheelite is found in

\* From Report No. 4 of the Southern Rhodesia Geological Survey.

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association with bismuth minerals about forty miles east of Lusitana. Some months ago a discovery of wolframite scattered in small crystals through a greisen dyke was made in Portuguese East Africa, close to the railway to Beira.

#### MODE OF OCCURRENCE.

The details of the known occurrences given above show that the ores of tungsten are widely distributed in Southern Rhodesia from Wankie to Umtali, and from Lomagundi to the Limpopo River. In the absence of full details it is difficult to analyse the occurrences thoroughly, but as far as the prospecting of the tungsten reefs is concerned, three distinct types may be recognised. (1) The Acid Dyke type, varying from highly quartzose pegmatite to highly felspathic aplite. These dykes may be or may not have been converted along greisen. Pegmatite, aplite, or greisen dykes are most abundant along the margins of granite masses, whence they may be distributed some distance both into the granite mass, or into the schists bordering the granite. In these reefs wolframite is the chief tungsten ore; scheelite, if present, occurring in smaller amount. The distribution of the tungsten minerals within the reef is always patchy, rich pockets usually alternating with more barren tracts in an apparently capricious manner. If any regular distribution of the mineral within the reef be found, it is more likely to take the form of a "pipe" than that of a "shoot." Gold is occasionally noted in the pan, but it is not likely to be present in payable quantity. (2) A variety of the gold quartz vein carrying small quantities of sulphides is the second type. There are many varieties of gold quartz veins in the country, but the ore here alluded to carries scheelite disseminated in fine grains and seldom in visible lumps. The scheelite is seen as a dull grey or white powder in front of the gold in the pan. Wolframite has not been recorded in this kind of reef. The commonest sulphide in these reefs is an iron sulphide. This kind of reef is often found in a country of gneissic granite, such as that around the Thist-Etna and Lydia groups of mines in the Hartley District, but it is also found in the schist country about the granite margins. In these reefs gold is the chief mineral, and scheelite can only be considered a by-product. (3) A third type of occurrence is the association of tungsten ores with copper ores in a quartz gangue. The Lounpangwan occurrence in the Sabi Valley is an example, and the new discovery in the Lomagundi District may prove to be so. The latter discovery is an indication that in prospecting the copper ores of that district, tungsten ores should not be overlooked. The first type is very definitely associated with acid intrusive rocks, the second and third types less definitely so. Two examples only are known in which the tungsten ore appears to be associated with basic rocks. These have not been investigated in detail on the ground, and the association may be apparent only and not real.

#### CONCENTRATION.

Owing to the great weight of wolframite and scheelite, these minerals are readily separated by some gravitational method from the other constituents of the reef. Other heavy minerals have not, in the reefs worked up to the present, given rise to any difficulty, but if such heavy minerals as tinstone or magnetite be found in quantity, some other form of treatment, such as magnetic separation, may have to be added. In the treatment of the acid dyke type of reef containing wolframite, or both wolframite and scheelite, the rotary diamond washer has proved successful in producing cheaply a marketable concentrate. Whatever type of mill may be adopted afterwards, the rotary washer is likely to remain the most useful machine for development work, and for the small worker. It has only a low efficiency, a great deal of fine wolframite being left in the residues. The concentrate from the washer is cleaned in the pan by natives, dried and bagged. This simple treatment is possible in the absence of any appreciable quantity of other heavy minerals, such as tinstone or magnetite. It will be understood, of course, that when ore is broken, the coarse wolframite is picked out by hand. The reject is broken to small pieces and goes to the rotary diamond washer. It is to be noted that wolframite ore should be crushed as little as possible, because, owing to its brittleness and cleavage, it is readily reduced to a fine powder, which is easily lost as dust or slime. In the treatment of the gold quartz vein containing scheelite, gold is, of course, the chief mineral and the scheelite a by-product, but in view of the need of scheelite for munitions and the definite offer of the Imperial Government detailed above, the recovery of scheelite should receive careful consideration. Owing to its weight, it can usually be separated readily from other constituents of the crushed ore. It is understood that at one mine in the Hartley District the scheelite is being concentrated on a Wilfley table, and that a shipment has already been made.

#### New Heriot.

The following cablegram has been sent to London: "Owing to the heavy loss caused by the flooding of the mine during the month of February the board of directors have decided to pass the dividend."

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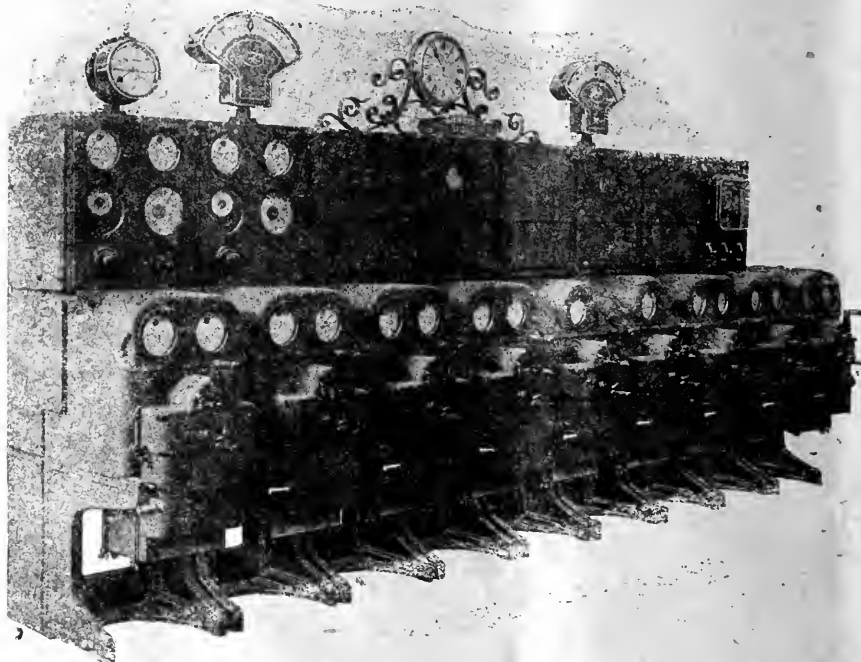
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## LIQUOR LAWS: SELECT COMMITTEE'S REPORT.

THE Blue Book containing the report of the Select Committee on the Transvaal Liquor Laws, and the evidence taken at the enquiry, has been issued. The Committee comprised Mr. Edward Rooth (chairman), the Minister of Justice, Messrs. Clayton, Wyndham, Neser, De Waal, Feetham, Drew, and Joubert. The substance of the Committee's recommendations has already been stated in our columns. We now give some fuller extracts from the report. After enumerating the various interests on whose behalf evidence was given, the report reviews the history of Transvaal liquor legislation, and passes on to emphasise the gravity of the existing position. The question for consideration is (a) whether the principle of absolute prohibition to coloured persons should be altered, or (b) whether the provisions of the law in reference to this principle should be tightened up, or (c) whether both these methods should be adopted. It is clear (states the Committee) that the demand for liquor by natives and coloured persons is enormous, and cannot be entirely stopped or prevented. The policy of prohibition of liquor for one section of the community has been tried for the last sixteen years. It has been given a fair trial and a long one, but the result has to a great extent been a failure. The law does not entirely prevent coloured persons from getting liquor, and thousands of Europeans, natives, and coloured persons have been, and are being, degraded and ruined in the hopeless attempt to put the provisions of the law into force. These facts have been clearly, definitely, and conclusively proved.

### AN "APPALLING" STATE OF AFFAIRS.

The state of affairs existing on the Witwatersrand (the report goes on to say) cannot be described as otherwise than appalling. No less than 168,521 persons were convicted for contraventions of the Liquor Laws on the Witwatersrand and in Pretoria during the years 1903 to 1917, inclusive. This is exclusive of the rest of the Transvaal. In these figures are included 8,214 Europeans (men and women) convicted of illicit sale of liquor, and 22,160 Europeans (men and women) convicted of drunkenness, leaving a balance of 138,237 non-Europeans convicted during the above-mentioned period, or an average of 9,216 convictions per annum of non-Europeans for a period of fifteen consecutive years. In these figures, recidivists, or persons who are convicted more than once, appear. The percentage of recidivists, as appears from the figures quoted in paragraph 14 of this report, was, in that instance, about 23 per cent. Official figures of convictions of Europeans for the whole of the Transvaal for the years 1903 to 1917, inclusive, show that out of 8,318 convictions of Europeans for the sale of liquor to coloured persons, the number of first offenders was 5,789, so that the number of recidivists convicted for liquor selling is 2,529, or about 23 per cent. of the total. Of the persons first convicted for selling liquor to coloured persons who were afterwards convicted for other offences and sentenced to imprisonment without the option of a fine, the number was 690. Those who had been previously convicted for other offences and sentenced to imprisonment without the option of a fine was 910. The population of the Johannesburg Magisterial district is about 270,000, of which approximately one-half is European, and one-half coloured, viz., 15,000 Indians, and 120,000 natives and coloured persons. During the eight years 1910 to 1917 the number of convictions in the Johannesburg Magisterial district for drunkenness and assault was as follows:

	Europeans.	Coloured.
Drunkenness	7,450	24,668
Assault	2,688	9,771

From these figures it will be seen that half of the population of the Magisterial district of Johannesburg in regard to which prohibition is in force (viz., the coloured persons) produced 76.31 per cent. of the convictions for drunkenness during the above period, and 78.43 per cent. of the convictions for assault. Roughly, therefore, out of every four persons convicted in that area for drunkenness and assault, three were natives and coloured (who are under the "Prohibition" Law, and may not obtain liquor), and one was European, who may by law obtain liquor in unrestricted quantity. The direct cost to the State in connection with the enforcement of the Transvaal liquor laws for the last sixteen years must have run into millions of pounds sterling. The percentage of convicts in the Transvaal for illicit liquor selling and other contraventions of the liquor laws is about 22 per cent. of the total number of convicts, European and non-European. This percentage of the annual expenditure on prisons in the Transvaal amounts to £54,161. But in order to get these prisoners convicted the services of detectives and police were necessary to arrest them, and of the Courts to try them and sentence them. Twenty-two per cent. of the expenditure on police, etc., for the Transvaal amounts to £147,656. The total of these two amounts is the sum of £201,817 for one year. Expenditure more or less on this scale has been incurred annually for the last sixteen years, in the endeavour

to carry out our prohibition laws. When the indirect loss to the State, in respect of thousands of men and women who have been imprisoned, while they should have been earning their living by their industry, the broken homes, the misery and wretchedness caused by contraventions of the law are considered, it must be admitted by the most sanguine prohibitionist that the cost to the State, direct and indirect, in connection with the Transvaal liquor laws has been enormous.

After citing other statistics, the report says it has been submitted that the ideal solution would be total prohibition for everyone in the Union, European, native, and coloured. But in the opinion of your Committee the country is not prepared at the present stage to accept this solution. Nor has, in their opinion, the time arrived to consider as a practical proposition the question of complete State control in connection with the sale of liquor. They hold, however, that partial prohibition—i.e., prohibition for one section of the community only, viz., the coloured section, which has been in operation in the Transvaal for the last sixteen years, and has been given a fair trial, has to a great extent proved a failure. The illicit traffic apparently has such attractions for certain individuals that instances are not unknown where persons in receipt of good wages—as much as £1 per day—have given up their jobs for the purpose of selling liquor to prohibited persons. When people think that unlawful acts, such as selling liquor to prohibited persons (which acts have been described by some of the witnesses as "Statute-made crimes") are venial offences, and that imprisonment for such offences does not necessarily entail loss of caste (and this, unfortunately, as appears from the evidence, is the case amongst a not inconsiderable portion of the poor classes on the Rand and elsewhere)—it behoves the Legislature to take steps to amend and alter those conditions.

From the evidence it appears that mainly in consequence of this traffic, Europeans, natives, Asiatics, and other coloured persons live together promiscuously in some of the slums and yards on the Witwatersrand, and those places are "nests" of the illicit liquor traffic, that European women and girls prostitute themselves to natives and others, and that in this quarter there is a large number of bastard children, i.e., children of mixed blood. At the present moment there are amongst other Europeans in the Central Criminal Prison at Pretoria, convicted of illicit liquor selling, a greybeard of seventy years of age, and six women with babies at the breast. Four out of the ten Europeans on whom the indeterminate sentence has been passed in the Transvaal commenced their criminal record with a conviction for illicitly selling liquor to prohibited persons.

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## SUGGESTED REMEDIES.

The report proceeds to deal with three suggested "remedies"—on the basis of the State control of the sale of liquor to natives—for putting an end to the present deplorable state of affairs, viz.: (a) Supply Kaffir beer only. (b) Supply Kaffir beer and other malt beer and pure natural wine. (c) Supply all kinds of liquor, including spirits, all these being subject to due restrictions and under State control. A number of witnesses, including Col. Truter (Commissioner of Police), Lieut.-Col. Vachell (Deputy Commissioner of Police), Mr. T. G. Macfie (Resident Magistrate of Johannesburg), Mr. H. M. Taberer, Dr. Krause, Mr. Devenish, Mr. Alexander, and others, are of opinion that the illicit liquor traffic will only be stopped if natives and coloured persons are allowed all kinds of drink, including spirits, subject to restrictions and under Government control. Other witnesses, including Mr. J. de V. Roos (Secretary for Justice), Mr. Eaton (Commissioner for Customs and Excise), Dr. Dunstan, Dr. Van Niekerk (representing the Transvaal Medical Council), Mr. Kelsey (representing the Transvaal Chamber of Mines), and others, suggest that Kaffir beer and light wines, subject to restrictions and under Government control, should be allowed. Two of the five Commissioners who in 1910 signed the report of the Transvaal Liquor Commission were in favour of natural wine being supplied to natives. All the Commissioners reported in favour of supplying coloured persons and Asiatics with any liquor, except spirits, to be consumed on the premises. After most anxious and careful consideration the Committee—in view of the very strong evidence that merely extending the existing opportunities for obtaining Kaffir beer, which are sanctioned by the present law (i.e., that employers of fifty or more labourers may supply Kaffir beer, and that Kaffir beer may be brewed in rural areas distant more than twelve miles from a town, etc.) would be futile and of no avail—came to the conclusion that allowing Kaffir beer only would be a mere palliative, and would in no way deal efficiently with the matter, or materially reduce the activities of the illicit liquor seller. On the other hand the Committee, whilst recognising the fact that the witnesses who recommended allowing all kinds of liquor, including spirits, were well qualified to express an opinion, and that their opinion deserves serious consideration, does not see its way to recommend the allowing of spirits. Had the Committee been able to see its way to recommend that beer only should be allowed, it would gladly have done so, but in view of the position, as disclosed by the evidence, it has with great reluctance, and after long hesitation, been compelled to come to the conclusion that Kaffir and other beer and pure natural wine of approved alcoholic strength should be allowed. It therefore recommends that Kaffir and malt beer not exceeding 10 per cent. proof spirit and pure natural wine of approved alcoholic strength should be sold to natives and coloured persons in canteens to be consumed on the premises under such restrictions and in such manner as to ensure that no drunkenness or disorderly conduct takes place. These canteens should be under strict State control and be run by Government officials, and should in addition to beer and natural wines (the sale of which should not be "pushed") also supply non-alcoholic drinks. The profits made by these canteens should be utilised for the benefit of the natives and coloured persons in such manner as Parliament may decide—so as not to create a source of revenue for the State. The element of profit-making should as far as possible be eliminated. The Committee recommends that the Governor-General should be empowered to fix and define by proclamation, areas in the Transvaal Province within which canteens for the purpose of supplying those liquors to natives and coloured persons will be opened by Government. The areas in question could be altered or extended as circumstances may require. The liquor should be consumed on the premises, and should be of good quality. Regulations should be promulgated in connection with running the canteens, for preventing over-indulgence and drunkenness, and generally for the purpose of giving effect to the proposed scheme, and for its being properly carried out. Bona fide employer of coloured labour should be allowed to give his coloured servant who is regularly and bona fide employed by him a reasonable quantity of beer or pure natural wine to be consumed at the time in the presence of the employer or of his representative, on the premises or property where such servant is employed. The giving of such liquor to casual employees should be prohibited.

## PERSONAL.

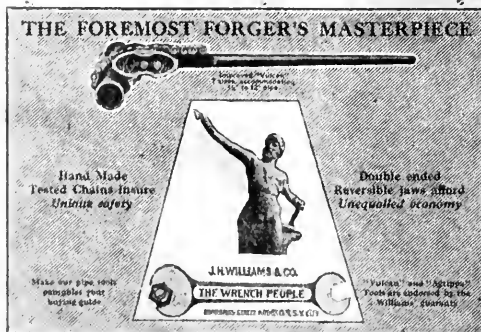
Mr. A. Canham, who has been acting as Editor of the *Journal of Industries* since the inception of the Journal, has now been definitely appointed Editor.

Commander Bryan C. Bartley, R.N.V.R. (Managing Director of Messrs. S. Sykes & Co., Ltd., Johannesburg), who has recently been promoted full Commander, is now Assistant Director of Supplies at the Air Board for the production of aeroplanes, and is giving the whole of his time to this important new branch of the services. Commander Bartley has been with the Admiralty in connection with the Air Service, since June, 1915, and was in France the greater part of 1916.

We regret to learn that Mr. William Minett Frames passed away on Saturday morning last at his residence in Pretoria. Though the latter years of his life were spent in retirement, Mr. Frames was a well-known figure in Kimberley and Johannesburg. He came of one of the oldest and best-known families in the Eastern Province. When the rush to the diamond fields set in the late William Minett Frames was one of those who took a leading part. He was very successful, selling out at Bultfontein Mine. He purchased the major portion of the Jagersfontein Mine, but his prospects were ruined by tremendous falls of reef, which covered his claims, and forced him, like many others of the pioneers, to sell out. From the diamond fields to the goldfields of the Rand was a natural step, and after a number of years at Luipaard's Vlei and other of the early Transvaal mines, Mr. Frames finally settled down to spend the evening of his days in Pretoria. He was 86 years of age. He leaves a widow and family of sons and daughters to mourn his loss. Three of his sons are well-known in connection with the great diamond mine of the Transvaal: Mr. Minett Frames, geologist, the discoverer of the Premier Mine; Mr. Percy Ross Frames, managing director; and Mr. Vivian Frames, one of the mine captains.

## A New Industry.

The United S.A. Enamel Company, Ltd., is being floated in Durban with a capital of £30,000 to acquire from Mr. J. de Agostini the enamelling works and business now carried on by him at Melbourne Road, Durban, and to extend operations by increasing the buildings and machinery to deal with larger articles and to manufacture a much larger range of goods. The business was established nine years ago, and is the only one of its kind in South Africa. The demand for enamelling work and enamelled articles has increased to such an extent that the present factory and plant cannot cope with the demand, and it is to provide plant and buildings to deal with the business offering, and with further demands that will arise, that has induced the vendor to consider turning his business into a limited liability company with increased capital. The Union Government and the following municipalities and corporations are customers of the present enamelling works:—Durban, Pretoria, Pietermaritzburg, Johannesburg, Krugersdorp, Potchefstroom, Benoni, Boksburg, Springs, Klerksdorp, Bloemfontein, Koffyfontein, Steynsrust, Ficksburg, Dundee, Ladysmith, East London, and others, and this will convey to some extent the demand throughout South Africa for this class of work. This list might be very much increased if facilities for carrying on the work, in the matter of additional plant and buildings, were available, but, owing to the fact that more orders are being received than can be executed with the present facilities, business is being declined, pending extension of machinery and plant. Such articles as street name plates, togt badges, mine notices, signals, instruction plates, advertisements, corporation badges, etc., are being manufactured and enamelled, and also many other lines.





## THE WEEK IN THE SHAREMARKET.

## From Dulness to Weakness—Scarcity of Business.

SATURDAY morning opened dull and featureless. The call was no better. Limited business, but with very little change in prices. Modder East and the Options were the turn lower and Modder Bs. with a seller at £7 12s. 6d. and no buyer showed a decided downward tendency. Monday's call brought no change. The market is a mixture of dulness, but withal wonderful firmness, the fluctuations in prices being negligible. Business, however, amounts to next to nothing. In fact, the whole takings of the morning would hardly have paid for one of the usual celebrations at the bar with which festive occasions are generally marked. On Tuesday morning only nine sales were put through at high change. Once again no alteration in price has to be recorded in the better class stocks. Rooibergs and Zanplaats are still strong; the chief weakness of late has been in Lydenburg Farms, which continue falling daily. The Modder stocks remain firm at the lower levels, though New Modders made an advance of an eighth on recent buying offers. Wednesday brought another vain repetition of the previous day's doings, with ticky fluctuations. Members have now taken to throwing pennies at a chalk ring on the floor, and the most skilful performers make more money at the game than by following their legitimate avocations. After the period of stagnation already recorded, Thursday morning brought a decided weakening all along the list. The greatest drop was in Kleinfonteins which after a sale at 11s. fell to 10s. 6d. sales and sellers. Before the call the chairman presented Mr. Stanley Maynard with a cheque, subscribed by the members, for the purchase of a pair of field glasses. Mr. Maynard is leaving immediately for England on active service. In the course of his remarks, the chairman made a very satisfactory statement regarding the part taken by members in the matter of service at the front. Every clerk had presented himself at the Drill Hall and no less than ninety-six per cent. of the members had served or offered themselves. Lastly, there was not a single slacker on the Exchange. The outside business for the week consisted of sales in Union Tins at 4s. 6d. to 4s.; S.A. Alkalis, 70s.; South Van Ryms, 13s. 9d. to 14s.; Phoenix, 1s.; Compound Diamonds, 8s.; Sakalavas, 11s. to 10s. 6d. Buyers and sellers: Makganyene Diamonds, 19s. sellers; Invictas, 20s. sellers; Henderson's Options, 11d.—1s.; New Farms, 1s. 7d.—1s. 6d.; Montelesos, 35s. buyer. The Stock Exchange closes on Friday and Saturday.

	Fri. 17th.	Sat. 18th.	Mon. 20th.	Tues. 21st.	Wed. 22nd.	Thurs. 23rd.
African Farms . . .	9 9*	9 3*	9 3*	9 6*	9 7*	9 3
Anglo-Amer. Corp. .	33 0*	32 3*	33 0*	33 0*	33 0*	—
Apex Mines . . .	7 9*	7 6*	7 6*	7 6*	7 6*	7 6*
Aurora Wests . . .	12 6*	—	—	—	—	—
Bantjes Consolid. .	3 5*	2 9*	—	—	3 0*	3 0
Brakpan Mines . .	90 0*	—	90 0*	90 0*	92 0*	89 0*
Breyten Collieries .	11 0*	11 3*	—	—	—	11 0*
Brick & Potteries .	3 9*	3 9*	3 9*	3 9*	—	—
Bushveld Tins . . .	0 8*	—	0 8*	—	0 6*	0 6*
Cassell Coals . . .	28 0*	29 6*	29 0*	29 0*	30 0*	30 0*
Cinderella Cons. .	—	—	3 0*	—	3 0*	3 0*
City & Suburbans .	13 6*	13 3*	13 0*	13 0*	13 0*	13 3*
City Deep . . .	58 6*	57 6*	57 9*	58 6*	59 0*	57 6*
Cloverfield Mines .	8 3*	8 6*	7 9*	8 0*	7 9*	7 9*
Clydesdale Collieries	15 0*	15 0*	15 0*	15 6*	16 6*	17 0*
Concrete Construct. .	—	—	6 0*	6 5*	6 3*	6 3
Con. Investments . .	18 0*	18 0*	18 0*	20 18*	18 0*	18 0*
Con. Langlaagtes . .	17 6*	17 6*	17 0*	17 6*	17 6*	17 3*
Con. Main Reefs . .	13 6	13 0*	13 9*	13 0*	13 9*	—
Con. Mines Selection	28 6*	27 9*	27 6*	27 6*	27 9	27 0*
Coronation Colls. .	—	—	—	—	32 0*	—
Coronation Freeholds	1 3*	1 4*	1 3	1 3*	1 3*	1 3*
Crown Diamonds . .	5 0*	3 6*	3 6*	3 0*	3 0*	3 0*
Daggafontein Mines	23 9	24 0*	24 0	23 6*	23 9*	23 3*
Do. Options . . .	7 6*	7 6*	—	—	—	—
Durban Road, Deep .	—	10 0*	8 6*	10 0*	9 6*	—
East Rand Coals . .	2 1*	2 1*	2 1*	2 0*	2 0*	2 0*
East Rand Deep . . .	0 9*	0 9*	0 9*	0 9*	0 9*	0 9*
E.R. Minings . . .	16 0*	—	16 0*	15 0	16 0	15 0*
East Rand Props. . .	4 3	4 6*	4 0*	—	—	5 0
East Rand Deb. . . .	—	—	—	—	—	£52½
Eastern Golds . . .	—	1 1*	—	1 1*	1 1*	1 1*
Ferreira Deep . . .	—	12 0*	—	—	—	—
F. Smith Diamonds .	2 9*	2 9*	2 9*	2 9*	2 9*	2 9*
Geduld Props. . . .	39 0*	38 9	38 9*	39 0*	39 0	38 6

	Fri. 17th.	Sat. 18th.	Mon. 20th.	Tues. 21st.	Wed. 22nd.	Thurs. 23rd.
Glencaine . . .	—	1 3*	—	1 3*	—	2 0*
Glencoe Collieries .	—	—	—	—	7 6*	8 1*
Glyn's Lydenburgs .	18 0*	18 6*	18 6*	18 6*	18 9*	18 0*
Government Areas .	73 3	73 3*	73 0*	73 6	73 0*	72 4*
Jupiters . . .	3 10*	3 9*	3 9*	3 9*	3 9*	3 9*
Klerksdorp Props. .	1 11*	1 11	1 11*	1 11*	1 11*	1 11*
Knight Centrals . .	3 2	3 2*	3 3*	3 3	3 2*	3 2*
Lace Props. . . .	12 6*	11 9	11 9	11 6*	11 0	10 10
Leeuwpoot Tins . .	21 0*	21 3*	21 6*	21 3	21 6	21 0
Lydenburg Farms . .	9 6*	9 6	9 3*	9 3	9 3	9 3
Main Reef Wests . .	2 8*	—	2 8*	2 8*	2 7*	—
Meyer & Charltons .	—	90 0*	90 0*	—	—	—
Modder B's . . .	150 0*	152 6*	150 0	150 0*	156 0*	150 0
Modder Deep . . .	146 0*	145 6*	145 0*	145 6	145 0*	141 6
Modder Easts . . .	19 4	19 0	19 3	19 0*	19 1*	19 1*
Do. Options (3 yrs.)	6 0	6 0*	6 0*	5 11*	6 0*	6 0
Do. Options (1 yrs.)	7 0*	6 9*	7 1	7 3*	7 3*	7 2
Natal Navig. Col. .	—	—	—	—	—	19 9
National Banks . .	—	£13 15	£13 10*	£13 15*	£13 15*	£13 5*
New Boksburgs . . .	1 1*	—	—	—	—	—
New Eland Diam. .	30 0*	30 0*	30 0*	—	31 0*	30 0*
New Era Cons. . . .	10 0*	10 0*	10 0*	10 0*	10 0*	10 0*
New Geduld Deep .	5 10*	5 9*	5 10	5 9	5 8*	—
New Heriots . . .	21 0	—	—	—	—	—
New Kleinfonteins .	13 0	12 6*	12 3	12 0	11 9	10 6
New Modders . . .	£23½	£22½	£22½	£22½	£22½	£22½
New Unifeds . . .	—	4 9*	—	5 0*	—	—
Nigels . . . . .	1 0*	1 6*	1 0*	1 0*	1 0*	1 6*
Nourse Mines . . .	—	17 0*	17 0*	17 0*	17 0*	17 0*
Premier Preferreds .	—	142 6*	—	—	—	—
Pretoria Cements .	119 0	119 0*	119 0*	119 0*	119 0	118 0*
Princess Estates . .	2 2*	2 1*	2 0*	2 0*	2 0*	—
Rand Collieries . .	2 0*	2 0*	2 0*	2 0*	—	—
Rand Klips . . . .	9 1	9 0	9 0*	9 0*	9 0*	8 10*
Rand Nucleus . . .	1 2*	1 2*	—	1 2*	1 2*	1 2*
Rand Select. Corp. .	93 0*	91 6*	91 0*	90 0*	90 0*	90 0*
Randfontein Deep .	—	4 0*	—	4 0*	—	—
Randfontein Est. .	12 4*	12 3*	12 3*	12 3*	12 3*	12 0*
Roberts Victors . .	6 0*	—	—	6 0*	6 0*	6 0*
Rooibergs . . . .	13 0	13 0*	13 6	13 6*	13 6	13 3
Simmer & Jacks . .	2 9*	2 6*	—	2 6*	—	—
Simmer Deep . . .	1 11*	1 11*	1 10*	1 11*	1 11*	1 9
S.A. Breweries . . .	—	—	—	27 0*	26 6*	27 0*
S.A. Lands . . . .	6 0*	6 1	6 0*	6 1	6 1	5 11*
Springs Mines . . .	68 0*	68 0	67 9*	67 9	67 9*	67 3
Sub Nigels . . . .	25 3	25 3	25 0	25 0*	25 0*	21 9*
Swaziland Tins . .	31 0*	—	—	—	—	—
Transvaal Lands . .	—	12 6*	—	12 6*	12 6*	—
Trans. G.M. Est. . .	—	—	—	—	12 6	—
Van Ry's Deep . . .	71 9	71 3*	71 3*	71 6*	71 3	70 3*
Village Deep . . . .	—	16 9*	16 9*	17 0*	—	16 6*
Village Main Reefs .	11 0*	11 0*	11 0*	—	11 0*	11 0*
Welgedachts . . . .	—	—	25 0*	30 0*	—	—
Western Rand Est. .	—	—	1 9*	1 9*	1 11*	—
Witbank Collieries .	—	51 0*	—	—	50 0*	—
Wit. Deep . . . . .	7 9*	7 6*	7 9*	7 9*	8 0*	8 0
Woluthers . . . . .	4 1*	3 6*	3 9*	3 9*	3 9*	3 6*
Zanplaats Tins . . .	17 10	17 10	18 3	18 6	18 8	17 10
Union 5 per cent. .	£100 16 3	£100 16 3	£100 16 3	£100 16 3	£100 16 3	£100 16 3
New State Areas . .	18 9	18 7	18 6*	18 6*	18 6*	18 6
De Beers Deferreds .	—	—	—	£12 17 6*	—	—
De Beers Preferreds .	—	—	—	£12 17 6*	—	—

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## THE WEEK IN THE MINING MATERIAL AND ENGINEERING TRADES.

Our Future Supplies—American and Canadian Supplies—Industrial Unrest—Building Trade Increasing—Plate and Window Glass—Electrical Installations Wanted.

BUSINESS on the Commercial Exchange is still in the doldrums. What one can gather is that the general conversation usually drops into the query as to our future supplies. Undoubtedly the present stocks are being gradually absorbed and the absence of American and Canadian replenishment is becoming more pronounced from week to week. This is not surprising, as President Wilson, in his most recent utterances, stated: "I am sure, as we all intend, that every ship that can carry men or supplies shall go laden upon every voyage with every man and every supply she can carry." This statement is further borne out by the fact that mining supplies are coming from Great Britain more freely and plentifully than from America, for the time being. Orders from America, have been delayed recently because the official instructions appearing in the *Government Gazette* on May 10th are not thoroughly understood. It appears that orders under £2,000 can be sent accompanied by a banker's letter of credit, when in due course a bank in New York gives the required guarantee to the manufacturer that the cash will be forthcoming immediately the goods are delivered on rail. This procedure locks up a lot of cash, but orders for heavy lines over £2,000 will of necessity under the recent instructions lock up much more and in many cases no doubt check and even stop business. For orders exceeding £2,000 the cash must be sent to the British Treasury in London, who then guarantees payment through their New York agents. The American representative here giving this information thinks the new procedure may be to throw the responsibility on the British Government to see that goods and materials do not get into enemy's hands. He also further added that it may be the American Government wish to guard their manufacturers against supplying so many new merchants who have transferred their attention to the American trade since the war began.

#### THE INDUSTRIAL UNREST.

This subject has to be approached with a certain measure of timidity, but it cannot be ignored, as one can hardly go into an office seeking information without the subject of the recent Municipal strike being commented on. However, the matter is being forced by a meeting of the S. A. Federation of Trades on Sunday. The printed notice calling it is as follows: "The meeting will discuss the circumstances and consequences of the recent strike at the Johannesburg Municipal Power Station, especially in relation to the position of mechanics and miners working on the Witwatersrand gold mines. Labour Councillors have been invited to support charges made against a Federation deputation which met the Town Council during the strike." It will be noticed that some kind of friction exists, and as this will be fought out amongst other things on Sunday, perhaps it is desirable not to anticipate too much. In the meantime it is stopping business and enterprise.

#### TIMBER AND THE BUILDING TRADE.

The cables so far as can be ascertained do not say it much timber was destroyed in the great fire at Gottenberg. Offers have been received from Sweden for June and July shipments from there, at higher prices however. If contracts are made on the new lines of original cost and the present very high freights, timber cannot be landed in Johannesburg at the price it is now being sold at by our merchants. The price of deals to-day is 1s. 9d. per foot for ordinary and up to 1s. 11d. picked or for long lengths. Notwithstanding the high values of timber and building

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materials there is a decided tendency to go ahead and wait for nothing. The April plans passed by the Johannesburg Municipality were estimated at £90,000, which is the highest total since January. Naturally the passing of plans does not mean greater activity immediately, but it does mean that increased activity is in prospect.

#### PLATE AND WINDOW GLASS.

There is an extreme scarcity of plate glass, not only in Johannesburg but throughout South Africa, as firms here have been scouring the country by telegraph. Several orders were sent practically without limits but success was unobtainable. In Johannesburg there is a little sheet glass in thick sizes which is being used in a few cases as a substitute for plate. It also often happens that a big window has to be glazed in parts, which is not only difficult but unsatisfactory at the best. Even a decent-sized window costs about double to glaze as compared with pre-war days. The manager of a glass department said that he really had hopes of new supplies, for the simple reason that any quantity was on order in Britain and none had been received by his firm lately. There is not a bad supply of mirrors, some of which are being made with the thickest sheet-glass available.

#### CHEMICALS.

A wholesale chemist chiefly dealing with the mines is doing good business, not so much however with the Witwatersrand mines as outside propositions. Enquiries come from all parts of South Africa, chiefly from commercial manufacturers, and a lot of orders usually result. From the same source it was ascertained that the manufacture of carbide started some time ago at Germiston has made little progress towards producing a commercial article. The original company has secured assistance from a mining house and hopes are entertained that some better or improved process will be found. It was further stated that carbide is only made in Sweden and Canada, and although the process is not exactly a secret one, yet it requires much expert knowledge and clever handling.

#### ELECTRICAL MATERIAL.

There are, comparatively speaking, a large number of enquiries from Johannesburg, its outskirts and the Reef for electrical plants from 20 to 50 kilowatts. The reason is that the manufacturers do not wish to be absolutely dependent upon the Municipal electrical power, after last week's strike experience. The prospects of getting these small plants are not promising. Of late several small installations of electric light have been made at private residences at the cost of from £125 to £150, and it will be interesting to see how these answer. All electrical wiring (cables) is scarce, but shipments are expected. Japan is supplying us with porcelain electrical goods and other odds and ends, but an electrician said that we have not had enough experience of Japan electric ware to express a decided opinion.

#### VARIOUS TRADE ITEMS.

Big prices are being offered for cast-iron scrap. The mines are not only re-sorting their scrap heaps but are establishing special furnaces to deal with the old iron. All galvanised screws and washers are exceptionally scarce, awaiting shipments from Canada. The position of white lead and linseed oil is getting acute without any apparent relief unless American shipments arrive which have become so problematical. Turps are gradually being absorbed with poor prospects of replenishment.

#### REVISED PRICE LIST.

**BUILDING MATERIALS.**—Timber: Deals, Baltic, 9 x 3, 1s. 9d. to 1s. 9½d.; flooring, 4½ x ¾ and 6 x ¾, 10½d. to 10½d. per square foot; flooring, 4½ x 1½, 10½d.; and 6 x 1½, 10½d.; ceilings, 6 x ¾, 6½d. to 6½d. per square foot; pitch pine, 9s. per cubic foot; Oregon, 7s. to 8s. per cubic foot; clear pine, ½ in. x 12 in., 1s. 3d. per foot; lin. x 12 in., 1s. 6d.; teak, 20s. to 22s. per cubic foot; shelving, 1s. 1d.; jarrah, 12s. 6d. cub. ft.; poplar, lin. x 12 in., 1s. 6d.; scantling 1s. 8d. to 1s. 9d. foot; beaver boards, 6½d.; galvanised iron, 24-gauge, 6ft. to 10ft., 2s.; 11ft., 2s. 1d.; 12ft., 2s. 2d.; 26-gauge, 6ft. to 8ft., 1s. 7d.; 9ft. and 10ft., 1s. 8d.; flat galvanised, 24-gauge and 26-gauge, £5 100lb.; floor brads, 65s.; ceiling, 50s.; wire nails, 50s. to 90s. 100lb.; locks, rim, 66s.; mortice, 70s. per dozen; steel ceilings, 80s. to 85s.; roofing material, 1 ply, 15s.; 2 ply, 52s. 6d.; and 3 ply, 57s. 6d. per roll.

**BRICKS, CEMENT, LIME, ETC.**—Pretoria Portland Cement, 9s. 3d. bag; 8s. 3d. truck loads; lime, white, unslaked, 7s. 6d.; truck loads, 6s. 6d.; slaked, do., 5s. 8d.; blue, 4s. 6d.; plaster lime, 5s. 6d.; bricks, stock, delivered, 65s. to 70s.; wire cuts, 70s. to 80s.; pressed, 70s. to 80s. 1,600; road transport expensive when obtainable; salt glazed, £15 15s., and white bricks, £35 per 1,000; roofing tiles, £17 10s. to £27 10s. per 1,000; glazed tiles, 17s. 6d. to 27s. 6d. per yard; paving cement tiles, 8s. 6d. per yard laid; reinforced concrete columns, 6ft. plain, 25s.; fluted, 30s.; fireclay bricks, £5 10s. to £10 at kiln, per 1,000; clay chimney pots, 45s. to 70s., according to height, 12 in. to 18 in. per dozen.

**OILS, PAINTS, LEAD, OXIDE, GLASS.**—Linseed, raw and boiled, 13s. 6d. to 14s. O.M. gall.; white lead, 1s. 6d. per lb. and 1s. 3d. in big lots; turpentine, 66s. 2/4 1½ galls.; 10/ 5-6 imp. tins, 72s.;

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oxide in oil, 60s. per 100 lb.; dry oxide, 13s. 6d. to 16s.; linseed oil putty, 9d. per lb.; paints in tins, 1s. 6d. lb.; British plateglass, 4in., 6s. 6d.; do., mirror, 7s. 9d.; window, 16oz., 1s. 6d. to 1s. 9d. per foot; and fancy glass, 2s. per foot.

**GREASE.**—Imported, A.F. axle, £35½ local, £27½ to £28 per ton; tallow (local), 8d. per lb.; White Rose paraffin, 20s. 4d. 2/4 Laurel paraffin, 20s. 1d.; petrol, 35s. 6d. to 43s. 6d. 2/4 I.M.P.; motor oil, 7s. to 7s. 6d. per gallon; engine lubricating oils, 37s. 6d. to 45s. per case; cylinder, 37s. 6d. to 45s.

**CHEMICALS.**—Mercury, £40 75lb.; bichromate potash, 5s. 6d. lb.; chlorate, 4s. 6d. lb.; permanganate, 11s. 6d. to 13s. lb.; alum, 6d. lb.; carbonic acid, 7s. 6d. lb.; borax, 115s. 100lb.; cyanide sodium, 2s. 3d. to 2s. 6d. per lb.; hypo, 9d. lb.; nitrate lead, local, 50s. 100lb.; litharge (assay), 70s. to 72s. 6d. (commercial), 58s. 6d. 100 lbs.; zinc sheets and blocks, 1s. 9d. lb.; locally-smelted zinc, 6d. lb.; plumbago crucibles, 5d. to 6d. per number; carbide, 108s. to 120s. 100lb.

**ELECTRICAL GOODS.**—Lamps, high voltage, British, Holland and American, 30s. to 36s. wholesale, and 48s. to 54s. doz. retail; carbon lamps, 20s. dozen; pure rubber flex, 6d. to 8d. yd.; 3/20 coils wire, 55s. to 60s.; ditto, 3/22, 35s.; 7/22, 60s.; 7/20, 105s.; 7/18, 135s.; tubing, 30s. to 35s. per 100 ft.; keyholders, 3s. 6d. to 4s. 6d. each; round blocks, 3/1in., 5s. to 5s. 6d. dozen; lamp holder cord grips, 15s. to 15s. 6d. per dozen; switches, 5 amp., 30s. to 42s. per dozen; British glass shades, 30s. to 40s. dozen; porcelain shackles, 15s. to 18s. dozen; do., bobbins, 25s. to 30s. per 100; cleats, 22s. per 100; P.O. insulators, 18s. dozen.

**IRON & STEEL.**—Imp., 4in. and 5in. rd., 9d. to 1s. lb.; 4in. rd. and square 70s. to 75s. 100lb.; 5in., 68s.; 3in. round, 50s. to 55s. 100lb.; 1in. up, round, 36s. to 40s. 100lb.; square iron, 36s. and up, 100lb.; flat iron, small shoeing sizes, 55s. to 70s.; flat, average width and thickness, 27s. 6d. to 50s.; round iron, local, 3in. upwards, 33s. 6d. per 100lb.; square iron, local, 3in. upwards, 33s. 6d. per 100lb.; flat iron, average widths and thickness, 33s. 6d.; mild steel bar, 6½d. to 9d. per lb.; drill, 10d. to 1s. per lb.; steel plates, 75s. to 85s.; many sizes unobtainable; hexagon and cuphead bolts, 4in. diameter, 2s. to 2s. 6d. per lb.; 5-16in. diameter, 1s. 9d. to 2s. per lb.; 3in. diameter up to 3in. long, 1s. 9d. lb.; 3in. dia., 1s. 6d. 3/4in. and up long 1s. 6d. lb.; 4in. dia. up to 2½in. long, 77s. 6d. 100lb.; 4in. dia. and 2½in. up long, 75s. per 100lb.; 3in. diameter up to 2½in. long, 85s. per 100lb.; 3in. dia. 2½in. and up long, 60s. per 100lb.; 3in. diameter, 2½in. and up long, 55s. 100 lb.; 3in. and 1in. diameter, same price as 3in. diameter; nuts, 4in., 1s. 3d. per lb.; 3in., 85s.; 2in., 95s.; 1½in. and 1¼in., 85s.; 1½in. to 1¼in., 87s. 6d.; 2in. up, 92s. 6d.; washers, all 45s.; rivets, 3-16in., 1s. 6d. lb.; 3in., 5-16in., 1s. 6d. lb.; 7-16in., 3in., 1s. 3d. lb.; 3in., 75s. to 80s.; 3in., 72s. 6d.; 3in. up, 60s. 100 lb.; shoes and die, 52s. 6d. to 35s., 100 lb.; rails, £25 per ton; picks, 4lb., 40s. dozen; shovels, 70s. to 78s. dozen; drill hammers, 5½d. to 6d. per lb.; hammer handles (best American), 14in., 4s. 6d.; 24in., 10s.; 30in., 14s.; 36in., 17s. 6d. per dozen; metal, anti-friction kinoxite, 11d. to 4s. and special prices per lb.

In consequence of the daily, and even hourly, variation in prices, the Editor will answer reply-paid telegrams to verify any quotation in our list.

### The Lonely.

The following are particulars of operations at the Lonely Mine for the month of April: Mill ran, 696 hours; crushed 5,130 tons; fine gold recovered, 1,540.592 ozs.; value, £6,476 15s.; slimes treated, 5,130 tons; fine gold recovered, 2,957.917 ozs.; value, £12,441 16s. 8d.; total fine gold, 4,498.509 ozs.; total value, £18,918 10s. 8d.; profit, £9,655 1s. 8d.

## TOM SPENCER, CONTRACTOR.



All Classes of Boilers Examined and Repaired.  
General Overhauling of Mine Locomotives.

P.O. Box 28, — WITBANK.

During the course of a discussion before the Chemical, Mining and Metallurgical Society last Saturday night, Mr. R. Craib dealt with the scarcity and abnormal costs of material, which had led to considerable attention being paid to the reverberatory furnace as an adjunct to the smithy, by which means forgings, stems, shoes, dies, etc., were made from scrap. Most mines along the Reef had scrapheaps, which to-day were looked upon as being most valuable. Of course, scrapheaps had a limited life, but by the time these were depleted they would then be in a more able position to work the natural iron ore of the country. A furnace was installed at the Simmer and Jack Proprietary Mines some four months ago. Proceeding, he gave illustrations of the work accomplished by means of this furnace, work which would never have been attempted on the forge on account of the cost. They had made battery shoes, dies and stems, and bushes for battery heads. Not only had the furnace been of value to the mill, but it had actually become a necessity to other departments, and all their smaller forgings in future would be made from faggotted iron produced on the property. Mr. Craib proceeded to enumerate articles produced with the aid of the furnace, and concluded by expressing his confidence that in the future even better results would be achieved.

At the meeting of the Chemical, Metallurgical and Mining Society last Saturday night, Mr. E. M. Weston read an interesting contribution on the estimation of injurious dust in mines by means of the Kotzé Konimeter. The question whether dust of diameters from one-twelve thousandth of an inch to, say, one-twelve hundredth of an inch was harmless was dealt with by Mr. Weston in particular, the speaker pointing out that the majority of the particles found in the lungs of a miners' phthisis patient who died were less than two microns in size. There was not one particle of evidence, he contended, that the millions of particles of dust to which the ridiculous adjective of coarse had been applied had not during his underground career entered the unfortunate miner's lung and had produced the wounds and the resultant callous tissue and been afterwards ejected. Personally, he was not satisfied that any sharp dust that would remain suspended in the air was harmless. The results achieved with the konimeter were most valuable, that practically all mine dust was dangerous, and that even under present conditions the air of an ordinary mine contained enough millions of sharp particles to kill rapidly once nature's protective devices were weakened. Yet the slides shown by Mr. Innes proved that with the measures taken to deal with the dust the prospects were most encouraging, and he thought that the miners whose lives were concerned and the public of Johannesburg should know that the official view was that everything was well and the air down our mines such that no one need fear contracting phthisis. They should also know that a respirator had been invented and offered to the industry (leaving the matter of any reward entirely in their hands). This respirator could be worn with ease, and could be breathed through. Tests had shown that it would stop practically all dust.

### Swaziland Tin.

The following are the results of the operations of this company for the month of April, 1918: Concentrate recovered, 32.5 long tons; estimated profit (taking tin at £300 per ton), £2,801; adjustments in respect of previous shipments, £3,117; total estimated profit, £5,918.



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### New Patents.

732. Edgar Allen & Co., Ltd., and Hugh Donald Boyd.—Improvements in central buffers and couplings for railway and the like rolling stock.
733. Albert Mitram.—Improvements in and relating to metal bars for use in ferro-concrete construction.
734. Herbert Hepworth Thompson.—Process for forming expanded metal.
735. Moritz Kahn.—Improvements in and relating to ferro-concrete construction.
736. The Menco-Elma Syndicate, Ltd., and George Pollard.—Improvements in or relating to reversing-gear.
737. Aktiebolaget Atlas Diesel.—Improvements in pneumatic rock drilling machines.
738. British United Shoe Machinery (South Africa), Ltd.—Improvements in sole sewing machines.
739. The British Westinghouse Electric and Manufacturing Co., Ltd.—Improvements relating to the control of electric motors.
740. Bert Wright.—A new and improved method for the construction of concrete structures and articles.
741. Morris Aronsky Lewis.—The public speed indicator.
742. George Wilber Goff.—An improved connection joint for railway metals.
743. Frank Henry Dutton.—Improvements in light railway locomotives.
744. George Russel Beith and British Agencies, Ltd.—Improvements in lamp locks.
745. Arthur Lewis Robertson Scott.—Improvements in kinematograph shutters.
746. Henry Joshua Phillips and Arthur Phillips.—Improvements in or relating to the manufacture of coal briquettes.
747. David Stanislaus O'Donovan.—Improvements in presses or means for drying or filtering sludge or similar thick mixtures or solids and liquids.
748. Andre Joseph Chevallay.—Shuttle locking attachment for sewing machines and the like.
747. Ockert Petrus Johannes van der Westhuizen.—Method of and means for preventing animals from penetrating fences.
750. Charles Henry Blomfield Storey.—The ready grip miners' pipe and nut wrench.
751. Robert Thompson Brown.—Polish Reviver for piano, organs, furniture and the like.
752. Charles Herschel Davis.—Improvements appertaining to hammer drills.
753. Carlo Rossi.—Improvements in or relating to electrodes for use in the production of nitric oxide.
754. John Flint and Frederick George Brown.—An improved spirit for use as a fuel in internal combustion engines and for heating and lighting purposes.
755. Michael Henry Baker.—Improvements in concentrating or slimes tables.
756. Nehemiah Mortimer Thomas and Cuthbert George Petree.—Improvements in the process of manufacturing sugar-cane.
757. Isabella O'Callaghan.—Pour out device for petrol and like cans.
758. Jan Abraham Stephanus Jonbert.—Instrument for the improvement of any kind of plough.
759. George Archibald Park Rose.—A ventilation regulator.
760. Henry Rowe Rowe.—Improvements in the construction of sewage purifying tanks.
761. Adriaan Nel and Stephanus Nel.—Means for the production of motive power.
762. William Alexander Moore.—Improvements in apparatus or means for mixing solids and liquids applicable for use in the manufacture of cement and in metallurgical processes.
763. John William Birtley Craggs.—Improvements in warning the driver in the event of a mine skip or cage becoming derailed or disengaging its guides, and for operating controlling or trip gear of the engine or motor.
764. John Frederick van der Velde.—Improvements in elastic or resilient tyres for road vehicles.
765. Robert MacLaurin.—Improvements in or relating to the manufacture or production of gas, oil, and ammonia.
766. Robert Douglas.—Improved manufacture of pectous compounds.
767. Henry Livingstone Sulman and Edwin Edser.—Improvements in or relating to the concentration of ores.
768. Quintin Moore, James Cunningham and James William Bradbeer Stokes.—Improved process and apparatus for the production of recoverable ammonia in the manufacture of producer gas.
769. Minerals Separation, Ltd.—Improvements in or relating to the concentration of ores.
770. Minerals Separation, Ltd.—Improvements in or relating to the concentration of ores.
771. Minerals Separation, Ltd.—Improvements in or relating to the concentration of ores.
772. Minerals Separation, Ltd.—Improvements in or relating to the concentration of ores.
773. La Sabullee Societe Anonyme.—Improvements in explosives.

### April Company Registrations.

The following is the list of Companies registered in April, 1918 :—

- 5490 Rural Investments, Ltd., 28, City House, Harrison Street, Johannesburg; capital, £300; private company.
- 5491 Mahomed Sheik Ebrahim and Co., Ltd., 478, Sixteenth Street, Vrededorp, Johannesburg; capital, £200; private company.
- 5492 B. Berold & Co., Ltd., 182 Main Street, Johannesburg; capital, £4,500; private company.
- 5493 Saloojee & Sons, Ltd., 334, Eleventh Street, Vrededorp, Johannesburg; capital, £500; private company.
- 5494 Benefits, Ltd., 3, Old Exchange Buildings, Commissioner Street, Johannesburg; capital, £2,500; private company.
- 5495 Jack Hart, Ltd., 44a, Pritchard Street, Johannesburg; capital, £500; private company.
- 5496 The Parsee, Ltd., 224, Market Street, Johannesburg; capital, £3,000; private company.
- 5497 Desai Brothers & Co., Ltd., 202, Minnaar Street, Newtown, Johannesburg; capital, £200; private company.
- 5498 Maison Renee, Ltd., 118b, Eloff Street, Johannesburg; capital, £2,500; private company.
- 5499 South African Glass Works, Ltd., Lewis & Marks Buildings, President Street, Johannesburg; capital, £22,000.
- 5500 Die Suid Afrikaanse Nasionale Vereniging, Beperkt, Hoek van Jeppe en Rissikstraat, Johannesburg; capital, £10,000.
- 5501 A. H. Koomans, Beperkt, King Edwardstraat, Potchefstroom; capital, £5,000; private company.
- 5502 Lymol, Ltd., 4, Royal Chambers, Simmonds Street, Johannesburg; capital, £5,100; private company.
- 5503 Bodhan Estates, Ltd., 51, MacIntyre Street, Jeppetown, Johannesburg; capital, £3,000; private company.
- 5504 Hajee Aboo, Ltd., 308, Church Street, Pretoria; capital, £250; private company.
- 5505 Poojani, Ltd., 308, Church Street, Pretoria; capital, £250; private company.
- 5507 Potchefstroom Handelshuis, Beperkt, King Edwardstraat, Potchefstroom; capital, £5,000; private company.
- 5508 Zuid Afrikaans Hospitaal en Diakonessenhuis, 463, Walkerstraat, Pretoria; capital, £25; Section 21.
- 5509 The Ethiopian Association, Ltd., Klipspruit Location, Nancefield, Johannesburg; capital, £1,000; private company.
- 5510 Obari Estate, Ltd., Station Street, Roodepoort; capital, £1,000; private company.
- 5511 A. H. Patel, Ltd., 709, Twenty-Third Street, Vrededorp; capital, £2,000; private company.
- 5512 The Bombay State, Ltd., Station Street, Roodepoort; capital, £1,200; private company.
- 5513 The Star Trading Co., Ltd., Station Street, Roodepoort; capital, £2,000; private company.
- 5514 Patel & Khan, Ltd., Station Street, Roodepoort; capital, £1,200; private company.
- 5515 The Hind, Ltd., Kruger Street, Louis Trichardt; capital, £500; private company.
- 5516 Esack Estate Co., Market Street, Standerton; capital, £100; unlimited.
- 5517 Kempton Park Organic Industries, Ltd., 3 (First Floor), Permanent Buildings, Harrison Street, Johannesburg; capital, £12,000; private company.
- 5518 Essay & Sons Co., Ltd., 210, Laingsnek Street, Volksrust; capital, £4,000; private company.
- 5519 Ebrahim Moosa Brothers, Ltd., Relief Street, Pietpotgietersrust; capital, £1,500; private company.

- 5520 Hassim Jan Mahomed & Son, Ltd., Relief Street, Pietpotgietersrust; capital, £500; private company.
- 5521 The Witbank Chemical Co., Ltd., 39/40, Commercial Exchange Buildings, Main Street, Johannesburg; capital, £5,000; private company.
- 5522 Rufe Naylor's Patent Life Buys, Ltd., 15, Moseley's Buildings, President Street, Johannesburg; capital, £1,000; private company.
- 5523 Bhattay Madrasa Estate, Ltd., 5, Bell's Buildings, corner Main and Harrison Streets, Johannesburg; capital, £400; private company.
- 5525 The Bank and Glass Estates, Ltd., 5, Bell's Buildings, corner Main and Harrison Streets, Johannesburg; capital, £1,000; private company.
- 5526 H. F. Taylor & Co., Ltd., 74, Standard Bank Chambers, corner Commissioner and Harrison Streets, Johannesburg; capital, £1,000; private company.
- 5528 Satic (South African Technical Industries Co.), Ltd., 73, Fox Street, Johannesburg; capital, £1,000; private company.
- 5529 Hajee Habib, Ltd., 39, Market Street, Johannesburg; capital, £7,000; private company.
- 5530 E. Morkel, Ltd., Armitage's Building, corner Fox and Joubert Streets, Johannesburg; capital, £3,000; private company.

### FOREIGN COMPANIES.

- 5506 Eastern Van Ryn and Modderfontein Gold Reefs, Ltd., c/o Joseph Samuel Richardson, 151, Stock Exchange Buildings, Fox Street, Johannesburg; capital, £1,000.
- 5522 Theron Diamonds, Ltd., c/o L. C. Reinecke, 207, Consolidated Buildings, Johannesburg; capital, £30,000.
- 5527 Anglo-Scandinavian Trading Co., Ltd., c/o W. Frykberg, a38, Consolidated Buildings, Johannesburg; capital, 500,000 kronas.

### ALTERATIONS AND ADDITIONS TO FOREIGN COMPANY.

- 3809 Premier Gate, Fence, and Wire Co., Ltd., Johannesburg.

### CHANGE OF NAME.

- 5331 Creswick, Figur & Co., Ltd., Creswick & Co., Ltd., Johannesburg.

### SPECIAL AND EXTRAORDINARY RESOLUTIONS.

- 3170 Pretoria Townships, Ltd., Johannesburg; alteration of articles.
- 5397 George Smith & Co., Ltd., Johannesburg; increase of capital.
- 674 New Rietfontein Estate Gold Mines, Ltd., Johannesburg; liquidation.
- 5251 Globe Motor Mart and Exchange, Ltd., Johannesburg; liquidation.
- 2186 African Life Assurance Society, Ltd., Johannesburg; alteration of objects.
- 4563 M. E. Furniss, Ltd., Johannesburg; loan.
- 5454 Blair and Co., Ltd., Potchefstroom; alteration of articles.
- 2625 Richmond Assembly Hall Co., Ltd., Johannesburg; liquidation.
- 4624 Basson and Timberlake, Ltd., Johannesburg; directors.
- 5315 Union Box Factory, Ltd., Johannesburg; sale of certain assets.
- 5076 J. Coleman, Ltd., Johannesburg; confirmation of sale.
- 5276 Eastern Province Motor Marts, Ltd., Johannesburg; alteration of articles.
- 5314 Hampton's, Ltd., Johannesburg; alteration of articles.
- 4619 Entente Gold Mining Co., Ltd., Johannesburg; appointment of liquidator.
- 4887 The British Colonial Industries, Ltd., Johannesburg; liquidation.
- 5109 The New Abbots Mine, Ltd., Barberton; increase of capital.
- 2827 Jeppetown Produce Co., Ltd., Johannesburg; alteration of articles.

## TO MINING COMPANIES.

The Proprietor of Patent No. 248/16, the self-locked detachable bit relating to rock drilling machines, is desirous of disposing of the Patent Rights, or of negotiating for the grant of Licences to work the same on Royalty Basis. For particulars, apply—

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REQUIRES Second-hand Rails, 14lb., 20lb., 45lb.  
STATE FULL PARTICULARS.



## NOTICES OF INCREASE OF CAPITAL.

- 4071 South African Alkali, Ltd., Johannesburg; £25,000 to £42,000.  
 5397 George Smith & Co., Ltd., Johannesburg; £2,000 to £5,000.  
 5276 The Eastern Province Motor Marts, Ltd., Johannesburg; £1,000 to £2,000.  
 5109 New Abbotts Mine, Ltd., Barberton; £24,000 to £24,120.

## COMPANIES PLACED IN VOLUNTARY LIQUIDATION.

- 674 New Rietfontein Estate Gold Mines, Ltd., Johannesburg; capital, £625,000.  
 5251 Globe Motor Mart and Exchange, Ltd., Johannesburg; capital, £2,000.  
 2625 Richmond Assembly Hall Co., Ltd., Johannesburg; capital, £1,000.  
 4567 British Colonial Industries, Ltd., Johannesburg; capital, £1,000.

## NOTICES OF CHANGE OF ADDRESS.

- 3282 Denver Rock Drill & Machinery Co., Ltd., Southern Life Buildings, corner Main and Harrison Streets, Johannesburg.  
 4360 Premier Mine Dairy Farmers' Association, Ltd., 10a, East Street, Premier Mine.  
 5164 Automobile Electric Supply Co., Ltd., Mitchell's Buildings, Main Street, Johannesburg.  
 5219 Southern Cross Property Company, Ltd., No. 1, Edison House, corner Marshall and Simmonds Street, Johannesburg.  
 5479 South African Hardwood Company, Ltd., 50, Pim Street, Newtown, Johannesburg.  
 4191 Automobiles, Ltd., 174, Commissioner Street, Johannesburg.  
 2990 Zaniplata Tin Mining Company, Ltd., 7, First Floor, Tudor Chambers, Pretoria.  
 3463 Union Jack Gold Mining Company, Ltd., 7, First Floor, Tudor Chambers, Pretoria.  
 3355 South African General Electric Company, Ltd., c/o S. Smith and J. W. Kirkland, Edison House, corner Marshall and Simmonds Streets, Johannesburg.

- 4919 Steins, Ltd., 42b, Pritchard Street, Johannesburg.  
 4761 A. Sonnenberg & Co., Ltd., Fox Street, corner Mooi Street, Johannesburg.  
 5245 Mahomedan Educational Institute, Ltd., 25, Sacke's Buildings, Joubert Street, Johannesburg.  
 5416 Silver Company, Ltd., 29, Ferreira Street, Balmoral Street, Johannesburg.  
 4069 Native Farmers' Association of Africa, Ltd., Farm Daggakraal No. 161, Ward Amersfoort, District Wakkerstroom.  
 5033 Rahman, Ltd., Potgieter Street, Potchefstroom.  
 1026 Hollands Drift Developing Syndicate, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 2813 Pretoria Racing Club, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 2966 Unificatie Syndicate, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 2989 A. A. Bones & Company, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 4264 Glynn's Pretoria Gold Mining Company, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 5274 Zederberg Estate Company, Ltd., Tudor Chambers (First Floor), Church Square, Pretoria.  
 4920 Cedarfont Labour Association, Ltd., Farm Rietkuil, Holmdene, District Standerton.  
 5200 Makganyeni Diamond Syndicate, Ltd., c/o J. S. Richardson, 151, Stock Exchange Buildings, Johannesburg.  
 4782 Fraser & Son, Ltd., 19, Transvaal Bank Buildings, corner Fox and Sauer Streets, Johannesburg.  
 4062 B. Cumes, Ltd., 170, Market Street, Johannesburg.  
 5469 Jassat, Ltd., 13a, Kimberley Road, Bertrams, Johannesburg.

Last week's figures constitute a record in the matter of the shipments from Natal, for during the week no fewer than 52,500 tons were shipped from Durban, a total which (states a Natal paper) has never before been reached in one week in the annals of the port. These abnormal figures were due to the presence in dock of seven steamers, which took away with them no less than 40,000 tons of export coal—representing about four-fifths of the total shipment—and the remaining 13,500 as bunker coal. The figures for the weekly shipments during the past year or two are not before us, but taking the total tonnage of coal shipped during 1917 as 1,359,000 tons, this gives an average weekly shipment for that year of 26,000 tons, from which it will be seen how easily last week's figures soar above the average weekly shipments. One of the most satisfactory features in the situation is that there is still an ample supply of reserve coal at the Bluff, as the result of the policy initiated by the Railway Administration last year of depositing coal at convenient sites on the Bluff. This has largely achieved the objects aimed at, of minimising the detention of steamers at this port, and also of obviating the holding up of trucks loaded with shipment coal, for as soon as the coal is deposited in the reserve areas the trucks are at once released for return to the collieries. Another important aspect of the case is that ships can freely come to Durban, feeling assured that the requirements in the way of coal will be fully met, as there is ample ground for depositing sites at the Bluff, on which there can be accumulated a sufficiency of reserve coal to meet any sudden or abnormal shipping requirements which may arise from time to time.

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## The Week's Meetings.

### POSITION OF THE WIT. DEEP

#### Annual Meeting.

There was unusual interest taken in the annual meeting of the shareholders of the Wit. Deep on May 23rd. Mr. Frank Raleigh, the chairman of the company, presiding over a largely attended meeting.

The chairman said: Gentlemen, the reports and accounts which are before you deal very fully with the company's operations, and the result obtained during the year under review. It will be seen that a working profit of £64,496 was made, and that after allowing for sundry revenue and expenditure an amount of £63,079 is carried to the appropriation account. There is a credit on capital account for the year of £1,606, making the sum of £64,685 to be accounted for. From this sum a dividend of 5 per cent. was declared for the first half-year, absorbing £27,500, and Government taxes, which include taxation for the years 1916 and 1917 absorbed £18,854, leaving a balance of £18,331, which has been added to the unappropriated balance at the commencement of the year, bringing the amount carried forward to the current year up to £99,355. A reference to the balance sheet will show that this sum is chiefly invested in stores, materials, etc., which stood at £59,365 at the end of the year, the balance being made up of shares and interests in co-operative concerns, sundry debtors, and payments in advance less the net liability of £215. In regard to the balance sheet, the development and equipment account has been increased by £3,853, and sundry small alterations have taken place in the shares and interests in co-operative concerns. Otherwise there are no items which call for any special comment. Regarding the operations during the past year, I would first call your attention to a remark contained in the consulting engineer's report for the year ended 31st December, 1916, which was before you at the last annual meeting, namely, "The decreased value of the ore reserves indicates that it will be difficult to maintain the present rate of profits during this year, i.e., 1917." The profit referred to averaged £13,350 per month in 1916, being exclusive of Government taxes, contribution to miners' phthisis compensation fund, and shaft sinking.

Unfortunately, during the past year not only has the company had to mine from reserves of lower average value, but it has been faced with additional expenditure owing to war conditions, chiefly in connection with the increased cost of stores and labour. It has been further handicapped by two other conditions, namely, great shortage of native labour, thereby lowering the mine output by 97,000 tons as compared with the output of 1916, and abnormal expenditure in connection with the special maintenance of the mill costing over £3,000; special shaft maintenance and other items, in addition to which the cost of shaft sinking during the latter half of the year, £4,600, was charged to working costs. The underground native labour force averaged 450 less than for 1916.

#### Decreased Profit.

The mine has had to face a reduction in the revenue of 2d. per ton milled as compared with the preceding year and an increase in the costs of 3s. 2d., thus reducing the previous year's profit of 6s. 4d. to 3s. per ton. The development footage showed a reduction of 971 feet as compared with 1916. The south incline was deepened a further 355½ feet, as against 514½ feet in the previous year. The sinking of this incline has been handicapped by shortage of labour and by bad ground, and as it is the main thoroughfare for opening up the remaining undeveloped claims, it is essential that it should be pushed down as rapidly as possible. The tonnage developed totalled 230,155 tons, valued at 5.38 dwts., which is 30,000 tons less than the tonnage mined from the ore reserves and also .28 dwt. per ton less than their average value at the end of the year. The ore reserves on re-calculation are estimated to amount to 1,383,000 tons of an average value of 5.66 dwts., thus showing a decrease of 188,000 tons and .13 of a dwt. lower in average value as compared with the previous year. The drop in tonnage is due chiefly to the exclusion of about 150,000 tons, which cannot be regarded as payable under present conditions. You will notice from the consulting engineer's report that operations were particularly discouraging during the second half of last year when the results obtained were materially worse than during the first six months. In fact, for the last six months of the year only £3,700 were earned, as against £60,790 for the first six months. The consulting engineer's report shows that not only has the yield decreased during the second period to the extent of 1s. 5d. per ton, but the costs have risen 3s. 6d. per ton as compared with the first period. The factors contributing to the reduced profit during the second half-year are:—

(a) Incline shaft sinking (previously charged to capital account) .....	£4,637
Equipment of main haulage level between the two shafts .....	545
Slimes dam .....	400
Mine ventilation .....	1,500
Increase in sands filling .....	500
Increase in rock drill maintenance account .....	1,000
Increase in war bonus and mechanics pay since September 1 .....	1,500
Increased cost of development .....	1,500
Increased pumping charges .....	450
Increased cost of re-conditioning mill .....	750
Total .....	£12,812

(b) An average reduction of 5,400 tons a month in the quantity of ore milled, due to a drop of nearly 400 natives in the underground force. In fact, the numbers employed were lower than at any period during the previous three years.

(c) The necessity of changing over to machine drill stoping in August last, owing to the shortage of hammer boys, which increased the costs of the period and militated against the grade.

#### Abnormal Conditions.

You will, I know, realise the increasing difficulties under which

mining is being carried on during the war period, and it is not only these difficulties that we have had to contend with at the mine during the past year, and in fact are still contending with, but there are additional extraordinary circumstances which add to the normal working costs of the mine. I refer particularly to the condition of the east shaft, which has been giving trouble for several years past through age and long service, necessitating abnormal maintenance. In October last it was decided to equip the road-way on the 18th level with haulage gear, so that rock could be transferred to the west shaft, while repairs are effected to the shaft in question. The equipment of this haulage has cost £2,005 to date, and the repairs to the shaft are estimated to cost £6,300. Further, the re-conditioning of the mill, which was started during the first half of last year, and is still being carried out, comprising the replacing of the wood pile blocks by concrete, has been and still is, a heavy item of expenditure. You will see from the reports before you that the following items of abnormal expenditure have to be met during the current year.

On account of south incline hoist .....	£2,700
Ventilation of lower portion of mine .....	1,250
Repairs to east shaft .....	6,300
Repairs to mill .....	5,990

Total .....

£15,250  
In addition to which an increased amount of shaft sinking with its equipment is necessary. The operations during the first four months of the current year have been particularly unfortunate and a loss of £10,600 has been made.

#### Financial Position.

The company's financial position at end of April showed a net liability of £5,574 after assuming the £18,000 invested in V.P.P. preference shares as cash. The actual cash liability at that date was therefore £23,874, which has been met by a loan from the Central Mining and Investment Corporation, Ltd., at 6½d. per cent. per annum. As against this liability the company has stores, shares in co-operative concerns and sundry debtors totalling £94,734. The lowest points at which reef has been exposed are the 21st west drive and a winze from this drive near the shaft. Values at these points are somewhat better than the results for corresponding stretches on the 20th level, and the averages are:—

	Length	Estimated
	sampled value slope	dwts. wld. ins.
	feet.	
21 W. Drive .....	650	6.8 65
21 W. Winze .....	340	7.6 65

Owing to displacement of the reef by faults, the 21st east drive has not exposed reef. A cross-cut has been started at the 22nd level, but has not yet reached the reef.

#### The Management.

In August last the manager, Mr. J. E. McGuire, went on long leave with the intention of obtaining war work, but at the expiry of his leave he resigned his position. Your board has been fortunate to secure the services of Mr. Arnold Milne, manager of the Durban Roodenort, to take over the management of our mine, and he will assume his duties on the 1st of next month. Mr. Milne comes to us with an excellent record and long experience on these fields, and I have every confidence in his ability. The im-

diate outlook is certainly not very encouraging, but once the present adverse conditions in connection with the war are behind us and the shafts and plant are reconditioned it should be possible to earn steady profits again, provided the unexplored 121 claims give a reasonable percentage of payability of fair value and the necessary supply of native labour is available. At the end of March we had 44 employes away on active service, and you will notice, with deep regret, that two others laid down their lives during the year.

### Shareholders' Protection Society.

Some of you have probably received a circular letter from the honorary secretary of the Wit. Deep and Knight Central Shareholders' Protection Society, asking for your proxy for this meeting, with the object of using it to relieve the present directorate of their control. As the contents of this circular are such as to create a wrong impression in the minds of shareholders, your Board issued a circular to all South African shareholders stating that they would be well advised not to authorise any of the individuals mentioned by the society to represent them at the meeting, and that the information mentioned in the circular was generally misleading and inaccurate. The society also circulated European shareholders, under date 31st January last, asking for proxies for this meeting. As a copy of this only reached us by the last English mail it has been impossible for the board either to refute the charges it contains or similarly advise European shareholders not to send their proxies to the society. It appears from the circulars that certain shareholders were dissatisfied at the last annual meeting, i.e., before the present administration took over, because one of the circulars says "hostile criticism was freely indulged in by us; we were, of course, too weak to be effective, and were hopelessly out-voted." I may say that the records of the meeting do not show that any shareholders voted against the resolutions submitted.

The society appears, on its own admission, to have come into existence shortly after the last annual meeting in June, 1917. In September last Mr. H. Gamble addressed a series of questions to the secretary of the company, dealing chiefly with details in regard to the working of the mine. As far as possible Mr. Gamble was furnished with replies, and he was invited to call upon the chairman of the company, because it was realised from the way in which the questions were put that much time and possibly misunderstanding could be saved by a personal interview. Mr. Gamble was informed that the board was at all times prepared to afford shareholders the fullest information, that the chairman would be pleased to discuss with him any point connected with the company's affairs, and would arrange for the consulting engineer to give him any information thereon; and further, that the board wished to afford him the opportunity of discussing the past and future policies of the company in a businesslike manner. Now, any reasonable person would imagine that a shareholder seeking information in good faith for the purpose of benefiting the company or desiring genuinely to assist the directors would have accepted an invitation such as was extended by the board in no less than four letters. Such a course, however, did not suit Mr. Gamble, and his attitude in this respect clearly shows that he had no wish either to

become more closely acquainted with the state of affairs at the mine or to assist the board and the new administration in any way whatever. Every consideration has been shown to Mr. Gamble, and every effort made to afford him the fullest information. In contrast to the treatment the board of directors was willing and anxious to accord Mr. Gamble, it will be apparent that his "first hand information from undeniably reliable sources" must have been obtained from some irresponsible person, and that if (as he says) he has "recently thoroughly inspected the property and made very exhaustive inquiries," such inspection and inquiries were conducted by him without the authority of the board of directors or the management of the mine. The correspondence between Mr. Gamble and the secretary of the company, above referred to, is open for perusal by any shareholder of the company and is on the table at this meeting.

### Mr. Gamble's Allegations.

I will now refer briefly to the salient points arising out of the circulars which have been issued to shareholders by the Wit. Deep and Knight Central Shareholders' Protection Society. The society states that the correspondence between Mr. Gamble and the secretary of the company clearly proves mal-administration, and that Mr. Gamble has first-hand information from reliable sources which convinces him of inexcusable extravagance having existed in the past, which may or may not exist at present. In regard to the proof of the alleged mal-administration, I cannot follow the society's reasoning, and I challenge its statement. In regard to the extravagance alleged to have existed in the past, I think you will agree, seeing Mr. Gamble had a cordial invitation to discuss the affairs of the company with me in September last, and knowing that a new administration had so recently taken over it was his duty then to draw my attention to the matter. His failure to do so, I think, either proves his inability to maintain his allegations, or else we must consider that he had not got the true interests of the company at heart, and that there are some other reasons which induce him and his society to adopt their present attitude. In reference to the society's criticisms and allegations regarding the working of the company, it is stated in one of their circulars that the monthly profit was approximately £18,000 in December, 1915. In the other circular, that issued to European shareholders, it is stated that in December, 1916, the mine was showing an average profit of approximately £18,000 per month against losses now being made. As a matter of fact, the profit for December, 1915, was approximately £16,000, or £2,000 less than stated by the society; and the profit in December, 1916, was approximately £8,600 or nearly £10,000 less than that stated by the society. Not one single word is stated in either circular of the possible cause of the decrease in profits, except the allegations of mal-administration and extravagance. In the first place, the December, 1915, profit of £16,000 had gradually decreased to £8,600 by December, 1916, and the consulting engineer, in his annual report for the year ended 31st December, 1916, gave a clear warning in regard to future profits when he stated: "The decreased value of the ore reserves indicates that it will be difficult to maintain the present rate of profits during this year." (1917).

### Ore Reserves.

On the subject of ore reserve values, I would remind you that they have gradually fallen from 6.8 dwts. in value at the end of 1913 to 5.68 dwts. at the end of 1917, equal to a fall of about 4s. 9d. per ton in situ. Shareholders were not advised by the society that as between the

ore reserves of 1915 and of the present year there is a fall of about 2s. 3d. per ton. Further, shareholders were not advised that as between December, 1915, and, say, March, 1918, the cost of stores and materials has increased enormously, in addition to which war bonuses to employes and active service allowances have had to be provided for. These charges are considerably higher than they were in December, 1915, accounting to a large extent for the increase in working costs, and, further, special maintenance of the reduction plant of some shafts, which has been carried on for some time past, has added still more to working costs. Shareholders were not advised by the society that in and about December, 1915, the gold mines employed more native labour than ever before in the history of the industry, largely due to the stoppage of the diamond mines. In January of this year, and for some months prior thereto, the gold industry had 40,000 less natives employed than in December, 1915. The effect of this shortage caused a considerable drop in the average tonnage milled by our company, with a corresponding increase in the costs per ton. This is illustrated by the following figures: In December, 1915, the number of natives employed in our mine underground was 3,113 and the tonnage milled was 41,800; by December, 1917, the number so employed was reduced to 2,990, being £20 less, and the tonnage milled was 33,420, or a reduction of 8,380 tons. In comparing the profits of December, 1915, with present-day results we therefore have three adverse factors to consider: (1) Decreasing mine grade; (2) increasing working costs due to war conditions and abnormal maintenance expenditure; (3) shortage of native labour.

### Other Mines.

It is well known to you that the Wit. Deep is not the only mine which has had serious decrease in profits within the periods referred to. Taking those in our immediate neighbourhood and quoting from the Chamber of Mines' reports, we find:—

	Profit. December, 1915.	Profit. December, 1917.	Profit. March, 1918.
E.R.P.M.	£ 36,677	£ 12,762	£ 6,084
Knight Deep	16,457	3,678	408
Glencairn	1,481	41	25
Rose Deep	23,663	17,108	13,967
Simmer & Jack	24,983	19,786	15,912
Ginsberg	3,540	396	710
Witwatersrand	23,092	11,009	9,781
	* Loss.		

### Administration Expenses.

The society refers to "the inexcusable extravagance which has occurred in the past and which may or may not exist at present." We do not know to what it refers, neither has the society enlightened us, but on the question of costs it compares the Wit. Deep costs with those of the adjoining Ginsberg and Witwatersrand companies, stating "we do not attach any blame to employees on the mine, but attribute it solely to extremely heavy administration expenses (head office)." It would appear, therefore, that the society considers the head office expenditure to be the cause of the difference between the costs of this company and those of the Ginsberg and Witwatersrand. Full details are given in the annual report of these expenses, which total £15,193, and include the London office expenses and claim licences, the whole being equal to 9d. per ton milled for last year, of which claim licences represent over 2d. per ton. The Ginsberg and Witwatersrand companies' costs under the head of "general expenses at head office and London" total 1s. 3d. per ton and 1s. 2 1/2d. per ton respectively. If we deduct from their

stated expenditure an estimate of the gold realisation charges, which are included, we arrive at a figure which is equivalent in the case of the Witwatersrand Company of 9.1d. per ton milled, and in the case of the Ginsberg Company 10.8d. per ton milled for "general expenses at head office and London." It would therefore appear that as regards the two companies quoted their head office expenditure is somewhat similar to our own; although, of course, we do not know exactly what their expenditure includes. As the various mines of these fields compile their head office expenses in different ways it is most difficult to draw any exact comparison between their costs and our own. I have no hesitation in saying that the amount criticised by the society compares favourably with other mines of these fields when similar items are included.

### General Charges.

Exception is taken by the society to the item: "Mine general charges, £36,318," and I think before criticising this item particulars might have been obtained as to how it is composed. It is no new item as far as this company is concerned, the expenditure thereon during the previous two years having been £39,426 and £44,755 respectively. The item of £36,318 is made up of: Water consumed, cost of purchase and pumping, less water sold, £10,557; manager, office and store, salaries, etc., £7,085; native recruiting fees, £6,955; active service allowances, £5,232; fire and accident insurance premiums, £3,234; lighting, £1,403; stables, surface transport and aiding charges, £1,195; engineering fees, £600; maintenance of buildings and surface roads, etc., less rents received, £558; donations, £536; telephones, postages, revenue stamps, telegrams, bank charges and etceteras, £505; assessment rates, £462; phthisis compensation to natives, £142; special policing charges, £110; sundry petties, £112.

Less revenue from:—Scrap sold, £993; discounts on trade accounts, £880; sundry refunds, £420; sale of accumulations, £100; total, £36,318.

I leave you to decide whether these are legitimate items of expenditure or not. The Central Mining-Rand Mines Group took over the administrative control of the company from the late Neumann Group, on the 1st of July last year, and shareholders have been given the fullest possible information regarding existing affairs at the mine, and the financial position of the company. This is borne out by the quarterly reports issued from time to time to shareholders, which are on the table, and the annual report, which is in your hands.

### Life of the Mine.

The society states in the circular to the European shareholders:—"Taking a conservative estimate, we consider the life of the mine to be another 12 or 13 years yet." This calls for 6 to 6½ million tons from the mine on a basis of 40,000 tons milled per month when allowing for sorting. In the circular to local shareholders the society states that the 121 unexplored claims represent approximately 3,676,000 tons apart from the present ore reserves. Our engineers agree with the figure quoted by the society as being a reasonable figure for gross tonnage. I would, however, point out that naturally an allowance should be made for dykes and faults. Then the percentage of payability has got to be determined and this of course cannot be ascertained until the area is fully explored. The area already blocked out for the ore reserves between our 20th and 21st levels, which is immediately above the 121 claims referred to, shows a payability of only 54 per

cent. on the tonnage exposed. The Government Mining Engineer's assessment of the life of the mine, for taxation purposes, which, of course, is based on present known factors, is much below the society's conservative estimate of 12 or 13 years. The experience of the mines in our neighbourhood does not, I think, warrant an assumption of 100 per cent payability in the 121 unexplored claims. Finally, gentlemen, I affirm that the statements made by the society are generally misleading and inaccurate.

Before moving the adoption of the report and accounts I beg to advise that there is an error in the names of the retiring directors: these should be Messrs. F. Raleigh and P. Dreyfus, instead of Messrs. W. T. Graham and J. Friedlander, who retired at the last annual meeting. With this alteration, I beg to move the adoption of the directors' report and accounts for the year ended the 31st December, 1917.

### Mr. Wallers's Speech.

Mr. E. A. Wallers said:—I beg to second the adoption of the report and accounts. It is obvious from the proxies handed in that, subject to their being in legal form, the Witwatersrand Deep and Knights Central Shareholders' Protection Society will out-vote the directorate at this meeting. This result will be purely a technical success, because there are on the water proxies in favour of the directors for this meeting more than sufficient to give them a majority vote. Owing, however, to the great delay in the mail now in transit, these proxies are not here in time to be used at this meeting. Should the society's proxies be used against the retiring directors, and the nominees of the society be elected in their place, it is evident this will be brought about by means contrary to the wishes of the majority of shareholders who have sent their proxies for this meeting, but whose proxies are delayed in transit owing to the war conditions prevailing. You are all aware of the circumstances under which the company was taken over by the Central Mining Administration owing to the death of Sir Sigismund Neumann, and the consequent disappearance of the Neumann administration. We did not desire to take over the administration of a company that was certainly in a somewhat difficult position, but we stepped into the breach for this and other companies, realising that the efficient technical and general secretarial organisation which we possess could handle them well. Mr. Gamble and his associates do not acquiesce apparently in this transference, though it is evident their grievances were in existence prior to the disappearance of the Neumann administration.

### Nothing to Hide.

We have nothing to hide in our administration of this or other companies, and, as is well known here, we at all times welcome legitimate criticism from any shareholder and are at all times anxious to give them every assistance and information that lies in our power. The claim for representation of substantial local interests on the board of a mining company is also a perfectly right and just one, and one to which we are at all times prepared to accede. But representation either in the manner or by the methods that we are now confronted with is neither legitimate nor right. Mr. Gamble was invited on several occasions to consult with the chairman of this company and with its technical advisers and could have obtained from them any information he desired. He declined to do this and apparently obtained information in an unauthorised manner, and as far as one can judge from some unauthorised employee of the company. I feel sure every one will agree that these methods are in themselves ex-

remely reprehensible, and would therefore be resented by any self-respecting business man.

### A Special Meeting.

We are perfectly satisfied to accept a mandate from shareholders of this company, and if it be their desire, to retire from its administration and leave control with Mr. Gamble and his colleagues. Indeed, speaking on behalf of our Corporation, we are inclined to take this course to-day in the event of the success of Mr. Gamble's methods, from which we dissociate ourselves, but we realise that it would be unfair to the majority of the shareholders. I have already mentioned that owing to the irregularity in the mail service a large number of proxies which would have given us a greater representation than that held by Mr. Gamble and his associates are delayed. In the circumstances, therefore, and failing the reelection of the retiring directors, it is our intention to call a special meeting of shareholders for the specific purpose of ascertaining whether it is the wish of shareholders that we should continue in our administration of this company. Ample notice of this meeting, which will take place after overseas shareholders have received the report of these proceedings, will be given, to enable them to forward their proxies. Finally, I may be allowed to reiterate what I said at the beginning of my remarks, that is, criticism is welcomed by us. The desire for representation of substantial local shareholders is a legitimate and right one, but those methods of Mr. Gamble are neither legitimate nor right, and must be repudiated.

The discussion which followed will appear in to-morrow's issue.

## NEW GEDULD DEEP, LTD.

### COMPANY'S SOUND POSITION.

Mr. E. Mansfield presided over the ordinary general meeting of shareholders of the New Geduld Deep, Ltd., held in the board-room, New Stock Exchange Buildings, on May 23rd, when a total of 126,000 shares out of an issued share capital of 300,000 shares were represented.

In moving the adoption of the directors' report and the balance sheet, the chairman said: Gentlemen,—The nature and extent of the business done during the year are shown in detail in the statements of accounts and the directors' report and consequently require very little comment from me. In making the usual comparison with the preceding financial period, I may call your attention to the profit of £9,460 10s. 4d., which is £2,271 5s. 2d. higher than last year's figure and constitutes a record for our company. The township profit shows an increase of £2,143 13s. 3d. and the revenue from interest an increase of £862 7s. 4d. Expenditure is higher owing to inclusion of the special bonus to directors voted at the last meeting of shareholders. Omitting this item, the normal expenditure shows the substantial reduction of £600 as compared with 1916.

You will notice that no debit has been made for income tax in the accounts before you. That is due to the revenue department having recently agreed to revise the basis on which the company was formerly taxed, with the result that credits allowed us for excess payments in the past have slightly exceeded the amount due to Government in respect of 1917. Under the heading of "Township," the report shows that 118 stands were sold during the year, leaving 58 still to be disposed of. Since the end of the year that number has been reduced by 24, leaving only 34 stands unrealised out of



the original number of 935. We have still to collect £18,501 11s. in respect of stands only partly paid for. The whole of this amount will be credited to profit and loss account as the instalments fall due and are paid.

### Springes Mines Shares.

Turning to the balance sheet—you will observe that the item "Mining Ground" has been replaced by "Springes Mines Shares Account," thus reflecting the sale of the former for 17,500 Springes Mines shares. These shares have been taken into the balance sheet at slightly under 23s. a share, bringing the total out at £19,957 1s. 6d., which is the amount formerly standing in the balance sheet against "Mining Ground." The additional 1,500 shares purchased by the board have been taken in at cost, i.e., just over £3 per share.

As the mynpatches sale was fully dealt with at the last meeting of shareholders in anticipation of the formal agreement which has since been concluded, it is unnecessary for me to cover the ground again. It is, however, gratifying to notice that the prospects of the Springes Mines shares, which are now our major asset, have steadily improved since we last met. The published reports show that development during the year has given excellent results; and, as you are aware, the company's position has been further strengthened by leasing from Government a big block of adjoining claims. The life of the mine would now appear to be, from a business point of view, practically unlimited.

The meeting of the Springes Mines Company will be held in a few days, and I have no doubt the chairman will take the opportunity of bringing shareholders up to date with recent developments. As the New Geduld Deep is so largely interested in that concern, we propose to enclose a copy of the chairman's speech when posted to shareholders the printed report and balance sheet of our own company.

### A Satisfactory Change.

Shareholders will, I am sure, share the board's satisfaction at the change which has occurred during the past two years in the aspect of the company's balance sheet. I refer to the "Township" item which has almost disappeared but leaves behind it some £16,000 in cash assets, and to the mynpatch ground, which, after figur-

ing for so many years as an unproductive asset, is now represented by a block of marketable shares earning substantial profits.

To summarise the position at date, I find that our cash assets and the Springes shareholding at to-day's quotation give a total of over £100,000. That is after setting aside £7,500 for the dividend which falls due for payment within a week or two. It does not include, however, the unsold ground in Geduld Township, which should give us at least another £5,000. This brings our net assets to £105,000, which works out at 7s. each over our 300,000 2s. shares.

In conclusion, I may mention that our company exercised its right in February last to take up from the C.M.S., Ltd., 1,800 Springes Mines shares at 60s.—1,200 of these have been sold at an average price of 73s. and it is the board's intention to sell the remaining 600 on a favourable opportunity presenting itself.

I now beg formally to move the adoption of the report and accounts.

The report and balance sheet was agreed to.

Messrs. Dundas Simpson and G. C. Fitzpatrick, the retiring directors, were re-elected, and, Messrs. Alex. Aiken and Carter and Geo. Mackenzie were reappointed the company's auditors.

This concluded the business.

## S.A. LAND AND EXPLORATION CO., LTD.

### Good Development Anticipated.

The annual meeting of shareholders of the S.A. Land and Exploration Company was held in the board-room, Meischke's Bldgs., on May 21, Mr. G. C. Fitzpatrick presiding over a large attendance of shareholders.

In moving the adoption of the directors' report and the balance sheet, the chairman said:—Gentlemen,—Before moving the adoption of the report, I wish to refer again to the absence of your chairman, Lieut.-Colonel Andersson. I am pleased to say that he has now been released by the Germans, but is interned as a British prisoner of war in Switzerland. His general health is good, but the wound

in his arm is still giving trouble, and a further operation will be necessary.

Copies of the report and statement of account have been in your possession for some weeks. Dealing first with the accounts, you will find that the financial position shows a slight improvement—on balance the revenue exceeded the expenditure by £524 4s. 9d., which is an improvement on last year of £415 4s. 10d. The cash and cash assets amount to £18,380 14s. 6d., which includes £4,000 British Exchange 5 per cent. bonds and £6,250 Union of South Africa 5 per cent. stock. The item of sundry debtors includes an amount of £2,057 10s. 8d. representing the balance of the purchase consideration in respect of the farms "Leeuwboschen" and "Gondmyr."

Since the close of the annual accounts the following properties have been disposed of (ex mineral rights), viz.—"Joubertsdal" No. 99, district Barberton, for £3,793 15s. 8d.; "Vlaklaagte" No. 477, district Middelburg, for £1,944 16s. 3d. With regard to "Vlaklaagte," No. 39, the tributor has experienced great difficulty in getting his machinery on to the property owing to the abnormal rains of last summer. He has just informed me, however, that all machinery is now on the property and that he hopes to get tender of the Anglo-American Corporation of South Africa, Ltd., was accepted and a company is to be formed for the exploitation of this ground. The development in the western section of the Springes Mines, Ltd., in the proximity of this new leased area is disclosing very good values and by arrangement between the two companies the drives from Springes Mines, Ltd., will be extended into this new leased area. We may therefore hope shortly to hear of good development in the ground adjoining our farm "Witpoort" No. 12.

Your farms have remained under the supervision of the Transvaal Landowners' Association, and our thanks are due to the secretary and district agents for their assistance in securing suitable tenants for properties and in the collection of rents.

I now beg to move that the report and accounts as submitted be and they are hereby approved and adopted.

Mr. W. P. Fisher seconded and the report and balance sheet were adopted.

Messrs. G. C. Fitzpatrick and Dundas Simpson, the retiring directors, were re-elected and Messrs. F. W. Diamond and English were reappointed auditors. This concluded the business.

Speaking at the recent annual meeting of the Johannesburg Chamber of Commerce, Mr. C. H.

### The Position of the Railways.

South African Railways last year amounted to £14,262,067—an increase of £1,005,020 over 1916, and no less than £1,873,332 more than the year 1913 before the war commenced. The expenditure—including depreciation, relaying, etc.—amounted to £10,262,658 last year, thus resulting in a gross profit of £3,999,429. After allowing for interest payable on capital—amounting to £3,201,499—there was a net profit of £333,212. The percentage of gross profit on capital amounted to £3 16s. 6d. as compared with £4 12s. 6d. in 1916, and £4 2s. 3d. in 1913. One of the principal features of the Railways last year was the increase of the working expenses—including depreciation in respect of permanent way and rolling stock—amounting to no less than £1,370,885. The passenger earnings increased from £3,859,737 to £4,078,278. It will be remembered that it was decided some time ago to abolish excursion fares, mainly because they created exceptional heavy additional traffic at a time when it was necessary to conserve the resources of the railways for hauling goods and coal for

more urgent purposes. The consequence was that travelling facilities were curtailed, and excursion fares and trains were entirely withdrawn. He was sure that the public recognised the necessity for these steps by the Administration, and the Chamber has given every possible assistance in carrying out an unpopular policy in the interests of the country generally. The action in this respect resulted in saving of 800,000 train miles last year. The question of engine power and rolling stock has been one of much concern to the Railway Authorities. The Railway Board states "that, notwithstanding the negotiations which it was reported last year had taken place between the Union Government and the Imperial Government towards the prevention of delays in the delivery of rolling stock, it has been impossible to obtain supplies in anything like the quantities necessary to cope with the present requirements. And no material improvement in the position may be anticipated until after the war." Twenty-seven new locomotives were, however, placed in service at a cost of £220,624, and 28 new coaches and 194 new wagons and vans were provided at a cost of £170,897. The earnings from goods rose from £5,808,660 to £5,864,545, and the tonnage conveyed in 1917 was 5,814,815 as compared with 5,816,320 in 1916.

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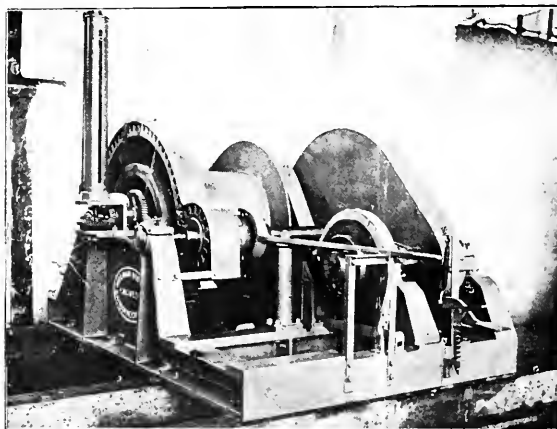
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